

## Summary

### History of Labour Statistics: Concepts, Sources and Methods

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be re-released. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.

Labour Statistics: Concepts, Sources and Methods provides a comprehensive discussion and description of the concepts and definitions underpinning Australian labour statistics and the data sources and methods used in the collection and compilation of these statistics. It explains what the statistics measure, how the various measures relate to each other and how they are produced. It also discusses the factors influencing their accuracy and reliability. On 15 December 2005, the entire publication was re-released. Several chapters were updated, four new chapters were added and existing chapters were re-numbered. All updates are listed below and future updates will be added as they occur.

<b>15 September 2006</b>	Chapter 6 was updated
<b>3 August 2006</b>	Chapter 21.8 was updated
<b>12 April 2006</b>	Chapters 7, 21.2, 21.10 and 21.14 were updated
<b>30 March 2006</b>	Chapter 19 was updated.
<b>8 February 2006</b>	New chapters 22.1 and 22.2 were added; and Chapter 20 was updated
<b>15 December 2005</b>	Labour Statistics: Concepts, Sources and Methods was re-released Chapters 1,10, 15, 17, 18, 21, 21.2, 21.11, 23, 24, 25, 28 and the List of Abbreviations were updated; A new chapter, Chapter 22, was added; The shells for new chapters 8, 22.1 and 22.2 were added; and Existing chapters were re-numbered to accommodate new chapters
<b>14 November 2005</b>	Chapters 20, 21.11 and 21.12 were updated
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<b>20 April 2005</b>	Chapter 30 was updated
<b>24 January 2005</b>	Chapter 32 was updated
<b>8 December 2004</b>	Chapters 2, 11 and 26 were updated
<b>26 August 2004</b>	Chapters 6, 7, 20, 21.13, 21.17, 21.4, 21.5, 25, 30 and 32 were updated

### About This Release

A comprehensive discussion and description of the concepts and definitions underpinning Australian labour statistics and the data sources and methods used in the collection and compilation of these statistics. It explains what the statistics measure, how the various measures relate to each other and how they are produced. It also discusses the factors influencing their accuracy and reliability. This issue contains updates to Chapters 21.2, 21.10 and 21.14.

Replaces: 6102.0

## Contents

### CONTENTS

[History of Labour Statistics: Concepts, Sources and Methods](#) - (Last Updated 15/9/2006)

[Preface](#) - (Last Updated 15/12/2005)

[Chapter 1. Overview of Labour Statistics](#) - (Last Updated 15/12/2005)

[Concepts and Sources](#) - (Last Updated 15/12/2005)

[Chapter 2. Currently Economically Active Population](#) - (Last Updated 15/12/2005)

[Chapter 3. Employment](#) - (Last Updated 15/12/2005)

[Chapter 4. Employment Measures and Classifications](#) - (Last Updated 15/12/2005)

[Chapter 5. Underemployment](#) - (Last Updated 15/12/2005)

[Chapter 6. Unemployment](#) - (Last Updated 15/9/2006)

[Chapter 7. Not In the Labour Force](#) - (Last Updated 12/04/2006)

[Chapter 8. Measures of Underutilised Labour](#) - (Last Updated 15/12/2005)

[Chapter 9. Usually Economically Active Population](#) - (Last Updated 15/12/2005)

[Chapter 10. Other Measures of the Economically Active Population](#) - (Last Updated 15/12/2005)

[Chapter 11. Job Vacancies](#) - (Last Updated 15/12/2005)

[Chapter 12. Earnings, Employee Compensation, Labour Costs and Related Statistics](#) - (Last Updated 15/12/2005)

[Chapter 13. Industrial Relations](#) - (Last Updated 15/12/2005)

[Chapter 14. Labour Productivity](#) - (Last Updated 15/12/2005)

[Chapter 15. Occupational Injuries and Diseases](#) - (Last Updated 15/12/2005)

[Chapter 16. Other Classifications Used in Labour Statistics](#) - (Last Updated 15/12/2005)

[Methods](#) - (Last Updated 15/12/2005)

[Chapter 17. Overview of Survey Methods](#) - (Last Updated 15/12/2005)

[Household Collections](#) - (Last Updated 15/12/2005)

[Chapter 18. Methods Used in ABS Household Surveys](#) - (Last Updated 15/12/2005)

[Chapter 19. The Australian Census of Population and Housing](#) - (Last Updated 30/03/2006)  
**NEW** [Chapter 20. Labour Force Survey](#) - (Last Updated 08/02/2006)  
[Chapter 21. Labour Force Supplementary Surveys](#) - (Last Updated 15/12/2005)  
[21.1 Career Experience](#) - (Last Updated 08/02/2006)  
[21.2 Employee Earnings, Benefits and Trade Union Membership](#) - (Last Updated 12/04/2006)  
[21.3. Forms of Employment](#) - (Last Updated 15/12/2005)  
[21.4. Job Search Experience of Unemployed Persons](#) - (Last Updated 15/12/2005)  
[21.5. Labour Force Experience](#) - (Last Updated 15/12/2005)  
[21.6. Labour Force Status and Other Characteristics of Migrants](#) - (Last Updated 15/12/2005)  
[21.7. Labour Mobility](#) - (Last Updated 15/12/2005)  
[21.8. Locations of Work](#) - (Last Updated 03/08/2006)  
[21.9. Multiple Job Holders](#) - (Last Updated 15/12/2005)  
[21.10. Persons Not in the Labour Force](#) - (Last Updated 12/04/2006)  
[21.11. Retirement and Retirement Intentions](#) - (Last Updated 15/12/2005)  
[21.12. Retrenchment and Redundancy](#) - (Last Updated 15/12/2005)  
[21.13. Successful and Unsuccessful Job Search Experience](#) - (Last Updated 15/12/2005)  
[21.14. Underemployed Workers](#) - (Last Updated 12/04/2006)  
[21.15. Work Related Injuries](#) - (Last Updated 15/12/2005)  
[21.16. Working Arrangements](#) - (Last Updated 15/12/2005)  
[21.17. Job Search Experience](#) - (Last Updated 15/12/2005)  
[Chapter 22. Multi-Purpose Household Survey](#) - (Last Updated 15/12/2005)  
**NEW** [Chapter 22.1. Barriers and Incentives to Labour Force Participation](#) - (Last Updated 08/02/2006)  
**NEW** [Chapter 22.2. Retirement and Retirement Intentions](#) - (Last Updated 08/02/2006)  
[Chapter 23. Survey of Employment Arrangements and Superannuation](#) - (Last Updated 15/12/2005)  
[Chapter 24. Survey of Employment and Unemployment Patterns](#) - (Last Updated 15/12/2005)  
[Business Collections](#) - (Last Updated 15/12/2005)  
[Chapter 25. Methods Used in ABS Business Surveys](#) - (Last Updated 15/12/2005)  
[Chapter 26. Industrial Disputes Collection](#) - (Last Updated 15/12/2005)  
[Chapter 27. Job Vacancies Survey](#) - (Last Updated 15/12/2005)  
[Chapter 28. Survey of Major Labour Costs](#) - (Last Updated 15/12/2005)  
[Chapter 29. Survey of Average Weekly Earnings](#) - (Last Updated 15/12/2005)  
[Chapter 30. Survey of Employee Earnings and Hours](#) - (Last Updated 15/12/2005)  
[Chapter 31. Survey of Employment and Earnings](#) - (Last Updated 15/12/2005)  
[Chapter 32. Labour Price Index](#) - (Last Updated 15/12/2005)  
[Chapter 33. Economic Activity Survey](#) - (Last Updated 15/12/2005)  
[List of Abbreviations](#) - (Last Updated 15/12/2005)  
[Appendix](#) - (Last Updated 15/12/2005)  
[Bibliography](#) - (Last Updated 15/12/2005)

## Preface

[Contents >> Preface](#)

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. The preface below is the original from the 2001 release.

This publication provides a comprehensive description of the concepts, sources and methods used in compiling Australian labour statistics. It also discusses the various statistical measures that are available, how they relate to each other, and the factors influencing their accuracy and reliability. The aim is to help users improve their understanding of the extensive range of labour statistics that are produced, and thereby to support better analyses and interpretations of the resulting data.

The publication updates and greatly extends the more summary information on concepts, sources and methods previously published under this catalogue number in 1986 in '**A Guide to Labour Statistics**'. Since that Guide was prepared, there have been a number of significant changes to international guidelines. These have been incorporated into this publication together with any consequent changes to Australian measurement practices.

Australian measurement practices are discussed within the context of international conventions, recommendations and guidelines. Published material of the International Labour Organisation (ILO) has been used and quoted extensively in this process. The ABS thanks the ILO for the use of this material.

I also take the opportunity to extend my thanks to the many ABS staff who have contributed to the preparation and production of this publication. In particular my thanks go to George Sarossy, a former employee of the ABS, and to Kirrilie Horswill, a current ABS employee, for their considerable efforts in preparing this publication.

From time to time, particular concepts, sources and methods used in compiling labour statistics are changed or modified in the light of reviews or other developments. The practice of advising users of these changes in the appropriate labour statistics publications and through special information papers will continue. It is also intended that the information in this publication will be updated periodically to reflect such changes and modifications.

The ABS invites comments on the usefulness of this publication as a guide to Australian labour statistics. Such feedback will help in planning the content of future issues, and the descriptive material included in regular ABS labour statistics publications. Comments should be directed to the Director, Labour Market Section, Australian Bureau of Statistics, PO Box 10, Belconnen ACT 2616.

Dennis Trewin  
 Australian Statistician  
 May 2001

[Previous Page](#)

[Next Page](#)

## History of Labour Statistics: Concepts, Sources and Methods

[Contents >> History of Labour Statistics: Concepts, Sources and Methods](#)

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[Previous Page](#)

[Next Page](#)

## Chapter 1. Overview of Labour Statistics

[Contents >> Chapter 1. Overview of Labour Statistics](#)

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### PURPOSE

1.1 This publication provides a comprehensive account of the concepts and definitions underpinning Australian labour statistics, and the data sources and methods used in the collection and compilation of these statistics. Although the publication covers the broad range of Australian labour statistics, the focus is on the collections conducted by the Australian Bureau of Statistics (ABS). It is designed to assist users in their understanding of Australian labour statistics and thereby allow better analyses and interpretations of the resulting data.

### WHAT ARE LABOUR STATISTICS?

1.2 Labour statistics measure aspects of the labour market, and are important economic and social indicators. Labour statistics provide insight into the economy and the effects of labour market policy settings, through measures of labour market demand (employment, job vacancies, labour costs) and labour market supply (unemployment, labour force participation). Labour statistics are also very much about people - their participation in the labour force, their success in finding employment, their earnings and other benefits, their type of work, and their working hours. Education and training statistics could also be included as a part of labour market statistics. Education and training is an aspect of people's preparation for the labour market, and their maintenance of skills once in the labour market. However, the wide variety of issues in this field usually causes it to be treated as a separate area of statistics; accordingly, education and training statistics have been excluded from this publication.

### USES AND USERS OF LABOUR STATISTICS

1.3 Labour statistics are used by a broad audience and serve a number of purposes. Users of labour statistics include: governments and their agencies and advisers, economists, financial analysts, journalists, business people, trade unions, employer associations, students, teachers, industrial tribunals, academic researchers and lobby groups.

1.4 Labour statistics are used extensively in both economic and social analyses. They are used in the analysis, evaluation, and monitoring of: the economy; the labour market; a wide range of government policies (relating in particular to employment, income support, industrial relations); and population groups of particular concern (women, younger persons, older persons, Indigenous people, etc).

### AUSTRALIAN LABOUR STATISTICS

1.5 Australian labour statistics comprise a large number of measures relating to the Australian labour market. Diagram 1.1 illustrates the range of ABS labour statistics, their sources, and broadly how they relate to the labour market.

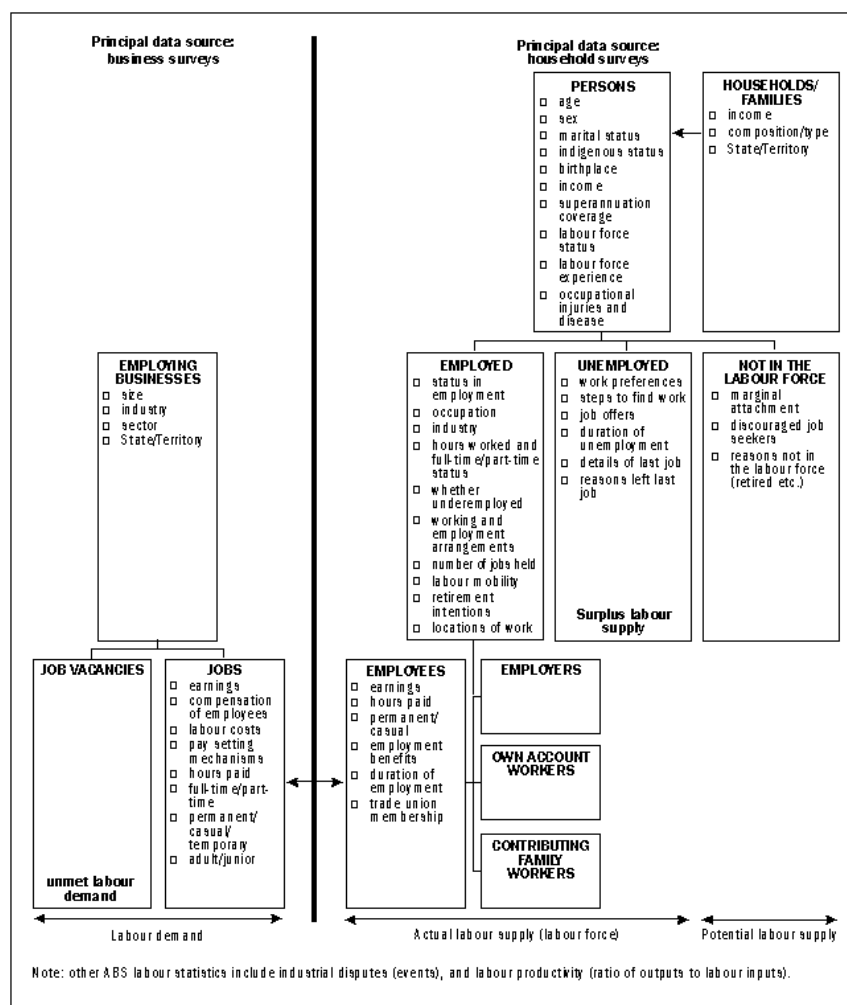
1.6 Population censuses and household surveys constitute the primary sources for labour statistics about people. In addition to information about current and previous labour force participation, information collected also includes demographic data, such as age, sex, family status and country of birth. Labour statistics collected about people provide insight into the supply of labour to the Australian labour market.

1.7 Business surveys are the primary source of data on labour costs, earnings, jobs and job vacancies, all of which provide insight into the demand for labour in the Australian labour market. Other sources of labour statistics include administrative data sets, which are the primary sources for information on occupational injury.

1.8 Australian labour statistics have a number of other features. The main ones are described below:

- Labour statistics incorporate a range of statistical or counting units, including households and families, persons, jobs, businesses, and events (such as incidence of industrial disputes and occupational injuries).
- Labour statistics contain information about a wide range of subjects - the economically active population, including statistics of employment, unemployment and underemployment; average earnings and hours of work; wage structures and distributions; labour costs; occupational injuries and disease; industrial disputes; and labour productivity.
- Labour statistics incorporate different types of estimates, such as: estimates of levels at points in time (e.g. number of unemployed in a given month); estimates of net changes in levels between points in time (e.g. month-to-month movements in unemployment); and estimates of gross changes at an individual level (e.g. flows among categories of labour force status). A number of estimates are also produced on an original, seasonally adjusted and/or trend basis.
- Australian labour statistics adhere wherever possible to international conventions, recommendations and guidelines developed and maintained by the International Labour Organisation (ILO) and the United Nations Statistical Office.
- Labour statistics are compiled and disseminated principally by the ABS, but also by other public sector agencies and some private sector organisations.

### 1.1 TYPES AND SOURCES OF ABS LABOUR STATISTICS



## DEVELOPMENT OF LABOUR STATISTICS

### DEVELOPMENT OF INTERNATIONAL STANDARDS

1.9 The ILO was founded in 1919, at the time of the Peace Conference that followed the end of the First World War. The ILO Constitution was written by the Labour Commission, which was set up by the Peace Conference. The Commission was composed of representatives from nine countries, and was chaired by the head of the American Federation of Labour. It resulted in a tripartite organisation, bringing together representatives of governments, employers and workers in its executive bodies. The ILO is unique among world organisations in that employers' and workers' representatives have equal voice with those of governments in shaping its policies and programs. The ILO Constitution became Part XIII of the Treaty of Versailles.

1.10 The International Labour Conference meets annually. It provides an international forum for the discussion of world labour and social issues, and sets minimum international labour standards and broad policies of the ILO. Each member country has the right to send four delegates to the Conference: two from the government and one each representing workers and employers, each of whom may speak and vote independently.

1.11 The most important instruments for the work of the ILO are the International Labour Conventions and Recommendations. These are adopted by the International Labour Conference and set international labour standards. Through ratification by member States, Conventions create binding obligations to implement their provisions. Recommendations provide guidance on policy, legislation and practice. In the field of labour statistics, the Labour Statistics Convention (No. 160) was adopted by the International Labour Conference in 1985, replacing an earlier and more restricted convention regarding wages and hours of work (No. 63, 1938).

1.12 The 1985 Convention lays down principles, obligations and recommendations for the collection and publication of labour and related statistics in the fields of employment, unemployment, earnings, hours of work, wage structure and distribution, labour costs, consumer prices, household income and expenditure, occupational injuries and disease and industrial disputes. Australia ratified the 1985 Convention in 1987. Australia had not been able to ratify the earlier convention of 1938 due to its then underdeveloped statistical system.

1.13 Detailed technical guidelines on labour statistics are expressed in the form of Resolutions formally adopted by one of the ILO technical committees - the International Conference of Labour Statisticians (ICLS). The first ICLS was convened in 1923, while the latest, the sixteenth, was in 1998. ICLS Resolutions cover such matters as concepts, definitions, methodologies for measurement and data collection, classification, analysis and dissemination.

1.14 ICLS Resolutions are currently in force for: collective agreements (1926); social security statistics (1957); hours of work (1962); labour costs (1966); underemployment and underutilisation of manpower (1966); household income and expenditure (1973); an integrated system of wages statistics (1973); occupational injuries (1982); economically active population, employment, unemployment and underemployment (1982); consumer price indices (1987); the International Standard Classification of Occupations (1987); strikes and lockouts, classification of status in employment, and employment in the informal sector (1993); and employment-related income, occupational injuries, and underemployment and inadequate employment situations (1998). The ICLS Resolutions can be found on the ILO website at the following address: <http://www.ilo.org/public/english/bureau/stat/res/index.htm>.

1.15 Prior to the 1960s, Australia's ability to conform with the international standards was limited by the level of resources and the nature of the methodologies available to official statisticians. The introduction of direct surveys of households and employers in the 1960s provided the Commonwealth Statistician with direct control over the type and range of data collected. Over the subsequent decades Australia has made a valuable contribution to the development and revision of international standards in the course of expanding its own labour statistics system in accordance with those standards. Australia currently meets the 1985 Convention almost in its entirety.

## DEVELOPMENT OF AUSTRALIAN LABOUR STATISTICS

1.16 Some statistics relating to wage levels, hours of work, labour organisations and unemployment were available in the separate self-governing colonies of Australia in the nineteenth century, when separate statistical bureaux were set up in the various States. However, it was only after Federation in 1901, the subsequent enactment of the Census and Statistics Act in 1905, and the establishment of the Commonwealth Bureau of Census and Statistics in 1906<sup>1</sup>, that the ground was prepared for the compilation of uniform labour statistics for the whole country. In the first national census of 1911, information was collected on occupation, wage rates, unemployment and duration of unemployment. In the same year a Labour and Industrial Branch was set up within the Commonwealth Bureau of Census and Statistics with the responsibility for publishing a report 'Trade Unionism, Unemployment, Wages, Prices and the Cost of Housing 1891-1912 (**footnote 1**).

1.17 Responsibility shortly thereafter extended into the fields of industrial disputes, trade unions and industrial accidents. This established the pattern of labour statistics that was to be followed more or less unchanged until the early 1960s. The principal sources of information available during this era were:

- population censuses - undertaken in 1911, 1921, 1933, 1947 and 1954;
- trade unions - details of wage rates, numbers of unemployed union members and industrial disputes; and
- administrative sources - details of awards, determinations, industrial agreements and industrial accidents provided in State and Federal statutory reports were all used in the production of labour statistics.

1.18 The first regular statistical measure of 'employment' in Australia dates from the introduction of Payroll Tax in 1941. This provided an administrative source of information suitable for deriving civilian employment by industry for each State and Australia, and average weekly earnings for employed wage and salary earners.

1.19 The Commonwealth Employment Service was established in 1947 to assist people seeking employment to obtain jobs best suited to their qualifications, skills, training and experience, and to assist employers seeking additional labour to obtain that best suited to their needs. As a by-product, the Commonwealth Employment Service produced measures of unemployed persons awaiting placement, as well as measures of vacancies notified by employers. The unemployment measure of the Commonwealth Employment Service remained the official measure of unemployment in Australia until the 1970s. Since one of the principal requirements for qualifying for unemployment benefits was registration with the Commonwealth Employment Service, a high degree of coverage resulted.

1.20 The integration of the separate State Statistics Bureaux with the Commonwealth Bureau in the late 1950s (though the Tasmanian integration agreement had been reached in 1924) allowed the resultant statistical organisation to place more emphasis on direct collections (more in line with international practices) and less emphasis on administrative by-product data.

1.21 The Commonwealth Bureau of Census and Statistics introduced household surveys in 1960 primarily to provide more detailed and comprehensive measures of the labour force than could be provided from administrative data sources (such as the Commonwealth Employment Service series). Initially the program of household surveys comprised only the Labour Force Survey, which was conducted in capital cities and on a quarterly basis. In 1964 the Labour Force Survey was extended to the whole of Australia, and then in 1978 it was expanded to a monthly frequency, when the Commonwealth Government decreed that it would provide the official measures for employment and unemployment. A supplementary topic was included with the Labour Force Survey for the first time in November 1961, and this concept has been gradually extended so that now the majority of months in each year include supplementary questions on one or more topics. In 1994 the Labour Force Survey also became the vehicle for a continuous survey of income and housing costs.

1.22 In the 1980s the program of household surveys was further expanded to include a program of Special Social Surveys. These surveys collect in-depth information about a population group or subject area of interest, as well as a range of labour force data for the population in scope. In recent years two Special Social Surveys have focussed on labour topics - the longitudinal Survey of Employment and Unemployment Patterns (1994-1997), and the Survey of Employment Arrangements and Superannuation (2000). In 1993 the quarterly Population Survey Monitor was introduced. This survey vehicle was designed to collect small amounts of data about simple topics at a

reasonable cost, and to output results in a timely manner. It was discontinued in 2000.

1.23 In addition to household surveys, the Commonwealth Bureau of Census and Statistics also introduced labour employer surveys in the 1960s. The program of employer surveys initially comprised an annual survey of employing businesses which was designed to supplement data being derived from payroll tax records to produce a quarterly average weekly earnings series. Conducted each October, the survey collected detailed dissections of earnings and hours paid for, for various categories of jobs (adult and junior, full-time and part-time, managerial and non-managerial) for both males and females. The quarterly series of average weekly earnings provided limited information about the composition of earnings, and no information on occupational earnings or the distribution of earnings. To supplement the quarterly series, a more extensive survey producing this information was introduced in 1974. Currently conducted biennially, this survey is known as the Survey of Employee Earnings and Hours. A survey of job vacancies was also launched in 1974.

1.24 By 1981 it was recognised that the payroll tax series used to produce the average weekly earnings and civilian employees series had deteriorated significantly in terms of coverage due to increasing payroll tax exemptions. Both series were discontinued and replaced with new series based on two new quarterly surveys of employers - the Survey of Average Weekly Earnings (introduced in 1981 and subsequently modified in 1983), and the Survey of Employment and Earnings (introduced in 1983). The mid 1980s also saw the introduction of an irregular survey of labour costs in 1985-86, which in the early 1990s was supplemented by a series of surveys on training expenditure (1989, 1990, 1993, and 1996). In 1997 the quarterly Wage Cost Index was introduced.

## **THE CURRENT ABS LABOUR STATISTICS PROGRAM**

1.25 The expansion of the labour statistics program over a large number of years has resulted in the ABS currently producing a wide range of labour statistics. Population censuses and household surveys constitute the primary sources of ABS labour statistics on persons and households. Business surveys are the primary sources of data on labour costs, earnings, employee jobs, job vacancies and industrial disputes. Administrative data are the primary source of data on occupational injury and disease. Other data, such as labour productivity data, are derived using a number of ABS sources.

1.26 There are a number of ABS collections that produce labour statistics but which do not fall within the ABS labour statistics program, as their primary purpose is not to produce labour market data. These collections nevertheless represent important sources of labour statistics and include various household, industry, and activity specific collections.

### **Household surveys**

1.27 Household surveys falling within the labour statistics program include:

- the monthly Labour Force Survey and its labour related supplementary topics:
  - Career Experience;
  - Employee Earnings, Benefits and Trade Union Membership;
  - Forms of Employment;
  - Job Search Experience;
  - Labour Force Experience;
  - Labour Force Status and Other Characteristics of Migrants;
  - Labour Mobility;
  - Locations of Work;
  - Multiple Job Holders;
  - Persons Not In the Labour Force;
  - Underemployed Workers;
  - Work Related Injuries;
  - Working Arrangements; and
  - Multi Purpose Household Survey (labour related topics include Retirement and Retirement Intentions and Barriers and Incentives to the Labour Force)
- ad hoc Special Social Surveys collecting information on aspects of the labour market, including the Survey of Employment Arrangements and Superannuation, and the Survey of Employment and Unemployment Patterns.

1.28 From 2001 the ABS household surveys program is being expanded to include a General Social Survey, an Indigenous Social Survey, and a Multi-purpose Household Survey. While the additional components do not fall specifically within the labour statistics program, they will yield a variety of labour statistics about the Australian population.

1.29 The General Social Survey will be conducted every three years and will collect broad information across all areas of social concern including data on the labour force characteristics of the population. Every six years this survey will be accompanied by the Indigenous Social Survey. The Multi-purpose Household Survey is a new, flexible multi-topic survey vehicle able to collect data and produce statistical output in a timely fashion. To be conducted two years in three in those years when the General Social Survey is not in the field, it will also collect data on a broad range of topics including a minimum set of data on labour force characteristics.

### **Business surveys**

1.30 Business surveys falling within the labour statistics program collect information from employing businesses on a range of topics. The program includes:

- Survey of Employment and Earnings (public sector only from 2002);

- Average Weekly Earnings Survey;
- Employee Earnings and Hours Survey;
- Survey of Job Vacancies;
- Survey of Major Labour Costs;
- Industrial Disputes Collection; and
- Labour Price Index.

### Dissemination of ABS labour statistics

1.31 The release practices for ABS labour statistics fall within the general release practices for all ABS data. Section 12(1) of the Census and Statistics Act 1905 requires the Statistician to compile and analyse information collected under the Act and to publish and disseminate the results of any compilations and analyses, or abstracts of those results. **Chapter 17** contains further detail on: ABS objectives and practices (e.g. confidentiality provisions) in the dissemination of statistics; and media used in the release of ABS statistics. The **Appendix** contains further detail on ICLS guidelines and ABS practice on the dissemination of labour statistics.

## STRUCTURE OF THE PUBLICATION

1.32 The remaining chapters in this publication are organised into two parts. The first part (concepts and sources) explains the concepts that underlie labour statistics, outlines the major classifications used in labour statistics, and overviews the sources for a number of key labour statistics. The second part (methods) focuses on the various labour statistics surveys, describing the data collected in each, methodologies used, and changes to collections over time.

1.33 The concepts and sources part of the publication (chapters 2 to 16) is organised into the following broad topics: the currently economically active population (**Chapter 2**); employment (**Chapter 3**); employment measures and classifications (**Chapter 4**); underemployment (**Chapter 5**); unemployment (**Chapter 6**); not in the labour force (**Chapter 7**); usually economically active population (**Chapter 9**); other measures of the economically active population (**Chapter 10**); job vacancies (**Chapter 11**); earnings, employee compensation, labour costs and related statistics (**Chapter 12**); industrial relations (**Chapter 13**); labour productivity (**Chapter 14**); occupational injuries and diseases (**Chapter 15**); and other classifications used in labour statistics (**Chapter 16**). Each chapter explains in detail: the concepts underlying the statistical measures discussed including international recommendations and guidelines where they apply; the definitions used in Australian measures and how they compare with the international recommendations and guidelines; and any differences across the various data sources.

■ 1.34 The methods part of the publication (chapters 17 to 33) describes the output and methodology of key ABS labour statistics surveys. **Chapter 17** provides a brief overview of key aspects of ABS survey methodology, and explains concepts and terms used in subsequent chapters. The remaining chapters are organised into two sections:

- ABS household surveys, including the Census of Population and Housing, the Labour Force Survey and its labour-related supplementary topics, and a number of Special Social Surveys, presented in chapters 18 to 24;
- labour-related ABS business surveys, presented in chapters 25 to 33.

Each section begins with a chapter outlining aspects of survey methodology which are common to the type of survey being discussed (i.e. household or business survey).

1.35 An Appendix supplements the information presented in the main part of this publication, by contrasting ICLS guidelines on the dissemination of labour statistics, with ABS practice and policy for the dissemination of labour statistics.

## PREVIOUS AND RELATED PUBLICATIONS

1.36 This is the first comprehensive and detailed publication produced by the ABS on concepts, sources and methods in the field of labour statistics. As indicated above, a considerably less detailed publication examining concepts and sources of labour statistics was released by the ABS in 1986 under the title **A Guide to Labour Statistics** (cat. no. 6102.0).

1.37 Summary information on the collection methodology, survey definitions and conceptual frameworks are contained in the explanatory notes of every ABS statistical publication.

1.38 The ABS also periodically releases information papers, occasional papers etc. on various labour statistics and their associated sources, concepts, definitions and collection methodologies.

## FURTHER INFORMATION

1.39 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. In 1974 the Commonwealth Bureau of Census and Statistics was abolished and replaced by the Australian Bureau of Statistics.

## 21.1 Career Experience

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.

## INTRODUCTION

21.1.1 This survey provides detailed information on the career experience of employees, and has been conducted on an irregular basis since 1993. Data collected in the survey are used in the formulation and monitoring of policy relating to workplace flexibility, barriers to career development, and workers with family responsibilities.

21.1.2 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

## SURVEY OUTPUT

21.1.3 Data are published in **Career Experience, Australia** (cat. no. 6254.0). More detailed data are available on request.

21.1.4 The main populations of interest are employees (excluding those aged 15-20 who are still attending school), and employees with children under 12 years of age. Estimates are produced on an original basis (i.e. not seasonally adjusted) only and include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, educational attainment, birthplace and year of arrival in Australia.
Employees	Employment characteristics (industry, occupation, sector, full-time/part-time status, permanent/casual status); hours worked in reference week; usual weekly earnings; size of employees workplace; changes in jobs held with current employer over previous 12 months (promotions, transfers, changes in duties, level of responsibility, and locations of work); duration of employment and expected future duration of employment with current employer; types of training received/supported by current employer; age of youngest child; and whether had a break from work of six months or more.
Employees with children aged under 12 years	Use of formal childcare; if not using formal childcare - reason why; if using formal childcare - type of childcare used, and number of employees in household.
Employees with children aged under 6 years	Whether took break from work when youngest child was born, and if so details of that break (duration and type of leave taken).

21.1.5 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (employment characteristics and hours worked), **Chapter 12** (weekly earnings), and **Chapter 16** (socio-demographic information, industry and sector).

## SCOPE

21.1.6 The scope of this survey is restricted to persons aged 15 years and over. Also excluded are persons aged 15-20 years who are still attending school. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## SAMPLE DESIGN

21.1.7 In addition to the sample restrictions for all supplementary surveys, a further three-eighths of the private dwelling sample of the Labour Force Survey are excluded from the sample for this survey.

## DATA COMPARABILITY OVER TIME

21.1.8 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 18** and are not repeated here.

<b>1993</b>	Initial survey conducted (February) - data published in <b>Career Experience, Australia</b> (cat. no. 6254.0).
<b>1996</b>	<p>Survey conducted (November).  Sample reduced to four-eighths of the Labour Force Survey sample.  Data items no longer available from this survey:</p> <ul style="list-style-type: none"> <li>• size of location (all employees);</li> <li>• whether work performance formally appraised by current employer in the last 12 months;</li> <li>• whether intend to stay with current employer for the next 12 months;</li> <li>• whether used different computers, computer-based equipment or computer packages with current employer in the last 12 months;</li> <li>• whether used other machinery, tools or equipment with current employer in the last 12 months;</li> <li>• whether on paid or unpaid leave during the most recent break from work;</li> <li>• main field of study; and</li> <li>• place of usual residence 12 months ago.</li> </ul>

Data items replaced by the data item 'Whether changed hours usually worked with current employer in the last 12 months':

- whether changed from full-time to part-time work with current employer in the last 12 months;
- whether changed from part-time to full-time work with current employer in the last 12 months; and
- whether had other change in hours usually worked with current employer in the last 12 months.

1998

Survey conducted (November).

Data items no longer available from this survey for persons aged 70 and over:

- educational attainment; and
- usual weekly earnings in current position.

Additional data items collected for this survey:

- size of location (all employees);
- whether work performance formally appraised by current employer in the last 12 months;
- expected future duration of main job;
- reason expected duration of main job is less than 12 months;
- type of leave taken for most recent break from work;
- main field of study; and
- place of usual residence 12 months ago.

## FURTHER INFORMATION

21.1.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 18. Methods Used in ABS Household Surveys

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 18. Methods Used in ABS Household Surveys](#)

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### INTRODUCTION

18.1 This chapter provides an overview of the survey methodology used in ABS household surveys. It should be used in conjunction with **Chapter 17**, which provides a broad overview of ABS survey methodology, and Chapters 19-24 which provide more detail on aspects of survey design that are particular to specific labour-related household collections.

### SCOPE AND COVERAGE

18.2 The scope of ABS household surveys varies from survey to survey. The Census of Population and Housing has the broadest scope of all ABS household surveys and aims to collect information from almost all persons residing in Australia on census night. The Labour Force Survey aims to collect information from a sample of the civilian population aged 15 years and over. The target population of the Labour Force Supplementary Surveys varies across surveys and is generally narrower than that of the Labour Force Survey. The target population of the Special Social Surveys also varies.

18.3 Practical collection difficulties, low levels of response and the small numbers involved have resulted in the exclusion of persons living in private dwellings in remote and sparsely settled parts of Australia from a number of household surveys (exceptions include: the Census of Population and Housing; the Labour Force Survey; and Special Social Surveys whose target population includes persons living in remote and sparsely settled areas). The exclusion of these persons has only a minor impact on any estimates produced for individual States and Territories, with the exception of the Northern Territory, where such persons account for over 20% of the population.

18.4 Some household surveys exclude all persons living in special dwellings from their scope (certain Special Social Surveys). Others exclude certain types of persons living in special dwellings: for example, institutionalised persons (**footnote 1**) and boarding school pupils (**footnote 2**) are excluded from the scope of most supplementary surveys.

18.5 Coverage rules are generally applied in all household surveys to ensure that each person is associated with only one dwelling, and hence has only one chance of selection. The chance of a person being enumerated at two separate dwellings in the one survey is considered to be negligible. Hence, strict coverage rules are consistently applied to ensure persons are enumerated at only one dwelling.

### COLLECTION METHODOLOGY

18.6 A number of collection methods are used in household surveys, and many surveys use more than one method. The most common method used is interview. Personal interviewing methods of telephone, face-to-face and computer assisted interviewing are all used in household surveys. Interviewing methodology such as Any Responsible Adult (ARA) or one/all members per household are used in household surveys. Telephone interview is used extensively in the Labour Force Survey and the supplementary surveys; face-to-face interviewing is used extensively in the Special Social Surveys. Individual person reporting within household interviewing is generally used in Special Social Surveys, while ARA interviewing is generally used in the Labour Force Survey and supplementary surveys. Computer assisted interviewing is used in a number of Special Social Surveys. Self-enumeration and administrative data sources are also used, particularly to collect sensitive data or to supplement the data collected by interview. Refer to **Chapter 17** for further explanation of different collection methods.

18.7 Intensive follow up procedures for non-response are in place for household surveys. For both face-to-face interviews and telephone interviews, interviewers make a number of attempts to contact households at different times of the day and on different days during the week. For providers unable to be contacted by telephone, a face-to-face visit is attempted. If the provider can still not be contacted within the survey period after repeated attempts, and the dwelling has been verified as not vacant, the dwelling is listed as a non-contact.

## SAMPLE DESIGN

18.8 With the exception of the Census of Population and Housing, most ABS household surveys use probability sample designs, drawing their sample from the **Population Survey Master Sample**. The Population Survey Master Sample is drawn from the **Population Survey Framework**. It is designed to meet the needs of the various types of ABS household surveys including the Labour Force Survey and its supplementary topics, as well as the Special Social Surveys.

## POPULATION SURVEY FRAMEWORK

18.9 The Population Survey Framework is composed of three components: the private dwelling framework, the special dwelling framework and the Indigenous Community Framework (ICF). These three frames are non-overlapping and therefore enable the selection of samples that represent the Australian population.

### Private dwelling framework

18.10 The private dwelling framework is a list of all census collection districts (CDs) in Australia. There are approximately 36,000 CDs on the framework, with most CDs containing around 250 private dwellings. For most areas, CDs are also the Primary Sampling Units (PSUs) used in sample selection for the Population Survey Master Sample. However in areas with low population density (where CDs contain smaller numbers of private dwellings), PSUs are instead formed by grouping (or pooling) neighbouring CDs. There are some 30,000 PSUs on the framework. Samples of private dwellings for use in household surveys are obtained by selecting a sample of PSUs, then selecting a sample of dwellings within those PSUs. By identifying households in dwellings (**footnote 3**), and persons within households, a sample of persons in private dwellings is obtained.

### Special dwelling framework

18.11 The special dwelling framework is a list of 'special' dwellings, from which samples of special dwellings and their residents can be selected. Special dwellings are establishments which provide predominantly short-term accommodation for communal or group living and often provide common eating facilities. They include hotels, motels, hostels, hospitals, religious institutions providing accommodation, educational institutions providing accommodation, prisons, boarding houses, short-stay caravan parks, and may include some Aboriginal and Torres Strait Islander communities that are not on the Indigenous Communities Framework. Some special dwellings are designed for a particular purpose (e.g. hospitals) and, as such, provide accommodation for specific groups of people. Special dwellings each comprise a number of dwelling units. Currently there are some 27,000 special dwellings on the frame.

18.12 The framework also contains information about the average occupancy of each special dwelling. Average occupancy is defined as an approximate yearly average of the number of occupants found in a particular special dwelling.

### Indigenous Communities Framework

18.13 The Indigenous Communities Framework contains all CDs with an identified indigenous population of greater than 75% of the total population. These CDs are classified differently from the remaining CDs on the frame ensure that an adequate sample of Indigenous dwellings are drawn while also allowing for special enumeration procedures within these areas. Communities within the ICF are separated into Main Communities (discrete Indigenous community with an estimated population of 40 or more) and Outstations (discrete Indigenous community with an estimated population of less than 40 and linked to a larger Main Community). There are approximately 650 CDs and 1300 Indigenous communities on the ICF.

## Stratification

18.14 The private dwelling framework and the special dwelling framework are divided (stratified) into groups (strata) with similar characteristics. The stratification used in each framework is described below.

### Private dwelling framework

18.15 Prior to stratification, CDs that fall into the ICF are removed from the private dwelling framework. The remaining PSUs on the private dwelling framework are stratified geographically. Strata are formed by initially dividing Australia into geographic regions, termed sample design regions, within each State/Territory which broadly correspond to Statistical Divisions or Subdivisions. There are approximately 100 regions in the framework. These regions are created to meet the requirements of dissemination, and conform to Australian Standard Geographic Classification (ASGC) boundaries. Strata are generally formed by combined divisions of these sample design regions, called Statistical Local Area (SLA) localities, that are of the same type within each sample design region. The type of an SLA locality is defined by a combination of its dwelling density and its Accessibility/Remoteness Index of Australia (ARIA) score. Broadly, SLA localities can fall into one of the following categories :

- Self-Representing Area (SRA) : All metropolitan areas and those expecting at least 50 dwelling selections per 4000 square kilometres
- Least Remote: Non-SRA area defined as having an ARIA score less than 5.95.
- Remote: Non-SRA area defined as having an ARIA score greater than or equal to 5.95 but less than 10.5.
- Very Remote: Non-SRA area defined as having an ARIA score greater than or equal to 10.5.

### Special dwelling framework

18.16 The special dwelling framework is also stratified geographically, though at a broader level than the private dwelling framework. In many cases the demographic, social and labour force characteristics of the occupants of special dwellings are not typical of the population residing in private dwellings, and therefore it is necessary to sample special dwellings separately by placing them in separate strata within each geographic (sample design) region. This provides for more effective samples of persons within special dwellings and private dwellings, and the flexibility to select some samples which exclude all or some special dwellings, or to select samples in which special attention is paid to persons residing in particular special dwellings.

18.17 Communities on the ICF are stratified geographically by state. Finer level stratification for the ICF was not feasible as the number of CDs in each state was not sufficient to enable the creation of multiple strata within any State/Territory.

## POPULATION SURVEY MASTER SAMPLE

18.18 As discussed above, the Population Survey Framework is used to select a sample which forms the Population Survey Master Sample. The Population Survey Master Sample comprises a sample of PSUs taken from the private dwelling framework, special dwellings, and Indigenous communities from the Indigenous Communities Framework. Most household surveys conducted by the ABS use samples drawn from the Population Survey Master Sample.

18.19 To satisfy the varying sampling and collection requirements of the many surveys using the Population Survey Master Sample, the sample has been designed to be as flexible as possible. Although the Labour Force Survey, Special Social Surveys and other ABS household surveys all have separate samples of dwellings, they are all selected from the Population Survey Master Sample using the same procedures. In many cases, much of the field work involved in setting up the sample is common to several surveys.

### Sample design

18.20 A multistage (**footnote 4**) area sample design is used to draw the sample of private dwellings from the list of PSUs on the private dwelling framework. For most areas there are three stages of sample selection: the first stage involves the selection of a sample of PSUs (each PSU generally equates to a CD); the second involves the selection of blocks within the selected PSUs; and the third involves the selection of dwellings within the selected blocks. However, for areas in the ex-metropolitan non-SRA strata (ie least remote, remote and very remote areas) there are four stages to sample selection: the first stage involves the selection of a sample of PSUs (each PSU is a group of contiguous CDs); the second involves the selection of a sample of CDs from the selected PSUs; the third involves the selection of blocks within the selected CDs; and the fourth involves the selection of dwellings within the selected blocks.

18.21 The use of cluster sampling, ensures that the 'final sampling units', i.e. the dwellings selected in the sample, form groups within which the dwellings are close together. This reduces the cost of compiling dwelling lists, and the amount of interviewer travel between selected dwellings. Highly clustered samples, where a large number of dwellings is selected from each of a small number of small areas, produce the lowest operational costs, but the results are less reliable and less representative of the population at large (i.e. have higher standard errors). A key feature of the design is achieving an acceptable balance between cost and accuracy.

18.22 A multistage design is also used to draw the sample of special dwellings from the special dwelling framework. A sample of special dwellings is selected at the first stage and dwelling units (rooms, beds, caravan sites etc.) at the second stage.

18.23 As with private and special dwellings, a multi-stage design is used to draw the sample of Indigenous communities from the ICF. A sample of Main Communities is selected at the first stage, and at the second stage a sample of outstations associated with the selected Main Communities are taken. Each selected outstation is then completely enumerated. A list is maintained of non-community dwellings within the CDs associated with each selected Main Community. These non-community dwellings are turned into clusters according to the number of clusters in the Main Community. A cluster sample is then taken of these non-community dwellings. Special dwellings in the selected CDs are regarded as non-community dwellings within the ICF.

### Sample allocation

18.24 The allocation of sample between the States is a compromise between accurate national estimates and useable estimates for the smaller States. As a result, the smaller States (and the Territories) have relatively high sampling fractions. The sampling fraction is uniform within States, reflecting the fact that, at the time the methodology was originally devised the State was the smallest geographic area for which estimates were usually published. Some allowance for the higher costs of sampling in non-metropolitan areas is made in the increased clustering of the sample in those areas.

### Sample selection

18.25 **Systematic sampling** is used as the selection method for private dwelling, special dwelling and Indigenous community samples. Geographic location is used as the ordering variable for this systematic selection.

#### Private dwellings

18.26 As discussed in paragraph 18.18, for most areas there are three stages to sample selection. At the first stage, PSUs are selected systematically with probability proportional to size (in terms of number of dwellings) and drawn independently from within each state by area type. At the second stage, blocks of 25-50 dwellings are formed and two blocks are selected, again with probability proportional to size. One block is used for the Labour Force Survey sample and the other for a parallel sample. The parallel sample is used for the Special Social Surveys, and for other household surveys where probability based samples are required. At the third stage, all dwellings in the selected blocks are listed and a 'cluster' of dwellings - comprising the final selection units - is selected using systematic random sampling. This process limits the need for a listing of dwellings to only those in the selected blocks.

18.27 For private dwellings, the selection of sample units at each stage (other than the last) results in a probability of selection proportional to the approximate number of dwelling units the CDs or blocks contain. At the last stage, in which dwellings are selected, each dwelling within a selected block has the same chance of selection.

18.28 The sampling fractions and selection procedures result in a self-weighting sample which guarantees every dwelling in the same State or Territory the same chance of selection.

#### Special dwellings

18.29 A systematic sample of special dwellings is selected from the special dwelling list, with probability proportional to size. The SDs are sorted by region, PSO type, area type and descending PSO occupancy. A systematic probability proportional to size sample of SD's is selected from the SD list independently within each state. Within states, SD's with a measure of size greater than 4 times the state skip interval are selected with certainty and placed at the top of the list. In least remote, remote and very remote areas, the recruitment of interviewers is difficult and the travel costs are high. Therefore, SD's in least remote, remote and very remote strata are selected only if they lie in a PSU selected in the PD sample or in a least remote urban PSU adjacent to a selected least remote rural PSU. This is known as "urban rural association". Within selected SD's, only usual residents (UR) are enumerated.

18.30 Average occupancy is used as the 'measure of size' of the special dwelling for selection purposes.

### **Indigenous Communities**

18.31 The selection methodology for Indigenous Communities involves forming 'sets', comprising each Main Community and its associated outstations. At the first stage, Main Communities are selected systematically with probability proportional to size of the 'set' and is referred to as the 'measure of size'. This selection methodology gives bigger 'sets', for which a reasonable workload for the set is assured, more chance of being selected.

18.32 At the second stage, a systematic sample is taken of the outstations associated with each selected Main Community. All dwellings within each selected outstation are completely enumerated. All outstations within a set have an equal probability of selection.

18.33 The measure of size used in the first stage is dependent upon the number of dwellings in the Main Community, as well as the number of 'live' outstations associated with it. A 'live' outstation is defined as an outstation that was populated at the time of the 2001 Census of Population and Housing, or Community Housing and Infrastructure Needs Survey (CHINS) 2001 (if no Special Indigenous Form (SIF) was required). The selection strategy puts an upper limit of two 'live' outstations selected per Main Community.

18.34 Once the measure of size is determined, it becomes the basis for determining the number of clusters formed from both the Main Community and the non-community dwellings. Therefore, the number of non-community dwelling clusters within each 'set' is equal to the measure of size for that 'set'. Clusters are selected using the same random start as that for the Main Community and rotated the same as the clusters for the Main Community, therefore systematic sampling is also used for the selection of the non-community dwelling clusters within the CDs associated with the Main Community in the selected 'set'.

18.35 This selection methodology applied to the ICF ensures that every person on the frame has the same chance of being selected. It is called Equal Probability of Selection (EPS). This also holds for the selections from the PD frame.

### **Adjusting for growth**

18.36 The Population Survey Master Sample is reselected once every five years (see paragraph 18.31), with the sample being used up progressively by ABS household surveys over each intervening five year period. Regular checking of the dwellings listed for each selected block, combined with the use of systematic random sampling at the last stage, ensure that all dwellings have the correct probability of selection for all surveys during the five year period (that is, the sample automatically adjusts for growth).

#### **Growth revision**

18.37 For the private dwelling framework, special 'growth revision' procedures are applied in areas where pockets of substantial growth have occurred (e.g. new housing subdivisions). Strata where substantial non-uniform growth has occurred are identified (using building approvals data) and each CD within them is represented twice on the frame, once for the dwellings in the CD as at the last population census and once for the growth dwellings. This means that the growth CDs can be selected twice in the sample. When revision of the CD sample is necessary due to growth in the stratum, additional clusters are allocated to the stratum with extra selections made from these clusters. The number of clusters to be allocated will depend on the amount of growth in the growth CD's of that stratum. Additional clusters should be allocated to a growth stratum according to the value of the total growth in the growth CD's, where total growth in each CD is supplied by Central Office (CO) of the ABS.

18.38 Lists of special dwellings are updated from Census information, previous lists of special dwellings, local knowledge, commercial and other directories, and field work (ie non-sample sources or independent source feedback). Special dwellings not on this list are accounted for in the private dwelling sample.

18.39 Predetermined Growth Strata - In some areas of Canberra and Darwin it is known that significant growth will occur during the life of the sample. Special growth revision procedures are used for these areas to simplify and minimise the amount of effort required to account for the growth. The CD's which constitute a growth stratum are typically in areas of rapid growth, contain large plots of vacant land on which the new dwellings are to be built and are usually geographically contiguous with similar CD's. That is, the growth stratum is not used for a CD which will grow significantly but which is bounded by fully built-up CD's. The selection of dwellings from growth strata does not include a CD stage of selection. The procedure differs depending on whether maps of the planned building lots are available.

### **SAMPLE RESELECTION**

18.40 The ABS reselects the Population Survey Master Sample every five years, using preliminary data from the Census of Population and Housing. For the ICF, data from CHINS is also used to determine other community characteristics, as well as supplementing Indigenous community data from the census to reduce the possibility of undercoverage in matching between the PD framework and ICF. These censuses provide valuable information to update the frame for selections. This reselection ensures that the household survey samples continue to accurately reflect the distribution of the Australian population. As well, the opportunity exists to examine the overall design of individual household surveys to ensure that they remain efficient and cost-effective.

18.41 The use of a constant sampling fraction between sample redesigns for regular surveys such as the Labour Force Survey results in increasing numbers of selections in the sample as the population grows. Also, as more selections are added to the survey, the operational costs increase. To offset these costs, the sampling fraction may be reduced at each redesign. (As standard errors are a function of the sample size rather than the sampling fraction, standard errors will generally not increase with successive redesigns in spite of the decreasing sampling fraction.)

### **ESTIMATION METHODS**

18.42 Household survey estimates are generally calculated using calibration estimation techniques.

### **BENCHMARKS**

18.43 Estimates of the population produced from household surveys are calculated in such a way as to add up to independently estimated counts (benchmarks) of the population. For the Labour Force Survey these benchmarks are based on Census of Population and Housing data, adjusted for under-enumeration and updated for births, deaths, interstate migration, and net permanent and long term migration. Benchmarks have been developed for State/Territory of usual residence, part of State of usual residence (for example, capital city, rest of

State), age and sex. Each cross-classification of these benchmark variables is known as a benchmark cell. Revisions are made to benchmarks after each Census of Population and Housing, and when the bases for estimating the population are reviewed.

18.44 Other household surveys use various combinations of benchmark variables to produce benchmark cells. Some surveys use supplementary information (such as Labour Force Survey estimates), referred to in this context as pseudo-benchmarks, to supplement independent demographic benchmarks based on Census of Population and Housing data. Household surveys may use calibration methods to incorporate other auxiliary information on target populations into estimates - for instance benchmarks for the Indigenous population or the population of private households.

## NON-RESPONSE

18.45 For most household surveys, a non-response adjustment is performed implicitly by the estimation system, which effectively imputes for each non-responding person on the basis of all responding persons in the same post-stratum. This adjustment accounts for both full non-response and non-response for individual questions.

## RESPONSE RATES

18.46 The **response rate** usually quoted for ABS household surveys is defined as the number of fully responding households divided by the total number of selected households excluding sample loss. Examples of sample loss for household surveys include: households where all persons are out of scope and/or coverage; vacant dwellings; dwellings under construction; dwellings converted to non-dwellings; derelict dwellings; and demolished dwellings. Detailed non-response and sample loss rates (referred to as Blue Books) are available from Population Surveys Processing (PSP).

## FURTHER INFORMATION

18.47 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. Institutions are defined as: hospitals and homes (including general homes, other hospitals, convalescent homes, homes for the aged, retirement homes, homes for the handicapped and orphanages), and prisons. Institutionalised persons are defined as all persons selected in institutions, apart from live-in staff who do not usually live in a private dwelling. **<back**
2. Boarding school pupils are defined as all pupils selected in boarding schools. **<back**
3. Note there may be more than one household associated with a dwelling. **<back**
4. Multistage sampling is an extension of cluster sampling - see **Chapter 17** for further information. **<back**

[Previous Page](#)

[Next Page](#)

# Chapter 17. Overview of Survey Methods

[Contents >> Methods >> Chapter 17. Overview of Survey Methods](#)

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## INTRODUCTION

17.1 The methods part of this publication describes the major ABS statistical surveys in the field of labour statistics and their compilation methods. Detailed information on scope, coverage, sample design, collection processes, estimation techniques and statistical output is presented for each of the surveys.

17.2 This chapter provides an overview of key aspects of survey design. It defines and explains key concepts and terms that relate to survey design. It commences with a discussion of sample surveys and censuses, and collection methodologies used in ABS surveys. The rest of the chapter is organised into the following topics: sample design and sampling techniques; estimation; time series estimates; reliability of estimates; output; and data comparability over time.

17.3 The subsequent chapters are organised into two sections. ABS household surveys are presented in chapters 18 to 24, and ABS business surveys in chapters 25 to 33. Each section begins with a chapter outlining aspects of survey methodology which are common to the type of survey being discussed (i.e. household or business survey). A separate chapter is then devoted to each major labour-related ABS survey.

## SAMPLE SURVEYS VERSUS CENSUSES

17.4 The ABS uses both sample surveys and censuses to collect information from a population about characteristics of interest. In the field of labour statistics, the ABS uses sample surveys of both households and businesses, as well as censuses (such as the Industrial Disputes collection).

17.5 Censuses involve the collection of information from all units in the target population, while sample surveys involve the collection of information from only a part (sample) of the target population.

17.6 Sample surveys have both advantages and disadvantages when compared with censuses. Some advantages are reduced costs (as less time is needed to collect, process and produce data), possible reductions in non-sampling error (this concept is discussed in further

detail later in this chapter), improved timeliness and the potential to gather more detailed information from each respondent.

17.7 A disadvantage of sample surveys is that estimates are subject to sampling error which occurs because data were obtained from only a sample, rather than the entire population (this concept is discussed in further detail later in this chapter). Also, as a result of obtaining only a small number of observations in particular geographical areas and sub-populations, detailed cross-tabulations may be subject to high levels of error and be of limited use.

17.8 Censuses are generally used when broad level information is sought for many fine sub-groups of the population, whereas Sample Surveys are used to collect detailed information to estimate for broader levels of the population.

## **COLLECTION METHODOLOGY**

17.9 A number of methods are used by the ABS for collecting data. Those most commonly used in labour-related surveys can be categorised into three basic groups:

- interview;
- self-enumeration; and
- documentary sources.

### **INTERVIEW**

17.10 The interview method of data collection involves an interviewer contacting data providers, asking the questions, and recording the responses. Interviews can be either personal, where the data provider is interviewed personally, or involving Any Responsible Adult (ARA), where the ARA responds on behalf of other survey units. Interviews can be conducted either face to face or over the telephone, and can be computer assisted. Interviews are most commonly used in household surveys.

#### **Personal interview**

17.11 Personal interviewing involves each provider being questioned about his or her own details.

#### **Any Responsible Adult interview**

17.12 The Any Responsible Adult (ARA), or proxy, method of interviewing is used in a number of ABS household surveys as an alternative to personal interviewing. This involves obtaining information about all the persons in a selected household who are in scope of the survey, from the first responsible adult with whom the interviewer makes contact (rather than speaking to each individual personally). The method is only used for collecting information on topics where other members of the household are likely to be able to answer the question. If the ARA is unable to supply all of the details for another individual in the household, a personal interview is conducted with that particular individual.

#### **Face to face interview**

17.13 Face to face interviews involve a trained interviewer visiting the provider to conduct the survey. Advantages of this method of data collection are higher response rates and improved data quality. Interviewers are able to help respondents understand the questions and provide correct answers, thereby allowing for the collection of more complex data. The improved quality of the data means that less data editing and correction is required at a later stage.

17.14 However, face to face interviews are expensive. There are costs involved in time and travel to reach the respondents, and in the recruitment, training, and management of an interviewer work force. Other disadvantages are that data can possibly be subject to bias caused by the interviewer's appearance and attitude, and that respondents may not feel free to disclose sensitive or private information to an interviewer.

#### **Telephone interview**

17.15 In telephone interviews the providers are asked the survey questions over the telephone. This reduces the costs compared to face to face interviews as fewer interviewers are needed and there are no travel costs involved. Telephone interviews can also produce more timely results. Call-backs for 'not-answering' and follow-ups for additional information are relatively quick and inexpensive.

17.16 As with other methods of data collection, there are some drawbacks associated with this approach. There are limits on the number and complexity of questions that can be asked and, because of the ease with which the respondent can terminate the interview, non-response and partial non-response can be higher than with face to face interviews.

17.17 Telephone interviewing is used in both ABS household and business surveys and may be used in conjunction with face to face interviews. For example, in the Labour Force Survey the first interview is conducted face to face and the remaining interviews are conducted by telephone if the provider agrees.

#### **Computer-assisted interview**

17.18 A computer-assisted interview, consists of an interviewer entering the data into a computer as they are provided. This allows some cross checks (referred to as edit checks) to be carried out at the time of the interview, thereby improving data quality. Overall timeliness of data processing is also improved.

### **SELF-ENUMERATION**

17.19 Self-enumeration surveys require the providers to self complete the survey questions. Self-enumeration surveys are most commonly used in business surveys, but can be used in household surveys. Three of the most common self-enumeration methods are dropoff/mail-back, dropoff/pickup and mail-out/mail-back and They are discussed below.

#### **Dropoff/Mail-back and Dropoff/Pickup**

17.20 Dropoff/mail-back and dropoff/pickup methods are used in a number of ABS household surveys and provide higher response rates and data quality than postal surveys. In both cases the questionnaire is delivered to respondents by an interviewer who explains the aims of the survey and how to fill out the questionnaire. The questionnaire is left with the respondent to be completed and then is either mailed back or picked up at a later date. An example of a dropoff/pickup survey is the Census of Population and Housing.

#### Mail-out/mail-back

17.21 Mail-out/mail-back surveys are used most commonly in ABS business surveys. This approach involves mailing questionnaires to respondents with a return-paid envelope so that the respondent can mail back the completed questionnaire. It allows wide geographic areas to be covered at a relatively low cost (compared to personal interviews), and allows access to 'difficult-to-contact' respondents (e.g. where a post office box is the only address provided). It also allows respondents to complete questionnaires in their own time. Another advantage of mail-out/mail-back surveys is that respondents may feel more comfortable providing data directly to the ABS without divulging confidential information to an interviewer. There are some disadvantages with this approach: response rates can be low; there can be delays between the time the questionnaire is sent out and returned; there are limits on the length and complexity of the questionnaire; and it is necessary to have a complete list of addresses for all units in the sample.

#### DOCUMENTARY SOURCES (ADMINISTRATIVE DATA)

17.22 Existing data, such as administrative data can be used to obtain information about the survey population as a whole and as individual units. The approach is used in some ABS business surveys to collect information about individual units in the survey population. For example, payroll records from some government departments are used in business surveys that collect information on earnings and employment.

17.23 An advantage of using administrative data is that it can save both time and money by removing the need for the ABS to collect the information directly from respondents. Disadvantages of using administrative data are that: often the data quality is below ABS quality standards, requiring substantial manipulation and checking before the data can be used (adding to the expense); the underlying concepts relate to administrative procedures rather than statistical constructs; and sometimes not all the data required for statistical purposes have been collected, or they have not been collected in a manner suitable for the purposes of the ABS.

#### SAMPLE DESIGN AND SAMPLING TECHNIQUES

17.24 All the ABS labour-related sample surveys referred to in this publication (household and business) use probability sampling techniques, drawing their samples from a population frame. This section briefly defines and explains key concepts and terms related to survey design. Subsequent chapters provide more detail on aspects of survey design that are particular to household surveys (**Chapter 18**) and business surveys (**Chapter 25**).

#### POPULATION

17.25 A survey is concerned with two types of population: the target population, and the survey population. The **target population** is the group of units about which information is sought and is also known as the **scope** of the survey. It is the population at which the survey is aimed. The scope should state clearly the units from which data are required and the extent and time covered e.g. households (units) in Australia (extent) in August 2000 (time).

17.26 However, the target population is a theoretical population as there are usually a number of units in the target population which cannot be surveyed. These include units which are difficult to contact and units which are missing from the frame (see 17.28). The **survey population** is that part of the population that is able to be surveyed and is also called the **coverage population**.

#### STATISTICAL UNITS

17.27 Statistical units are used in the design, collection, analysis and dissemination of statistical data. There are several types of units, including: sampling units (the units selected in the sample survey), collection units (the units from which data are collected), reporting units (the units about which data are collected), and analysis units (the units used for analysis of the data). The units used in a survey may change at various stages in the survey cycle. For example, the Labour Force Survey uses a sample of dwellings (sampling unit) from which information is collected from any responsible adult (collection unit) about each person in the household in scope of the survey (reporting units). The results of the survey may then be analysed for families (analysis unit).

#### FRAME

17.28 The frame comprises a list of statistical units (e.g. persons, households or businesses) in the population, together with auxiliary information about each unit. It serves as a basis for selecting the sample. Two types of frames are used in ABS labour-related surveys: list based frames and area based frames.

##### List based frames

17.29 List based frames comprise a list of all sampling units in the survey population. List based frames are commonly used in surveys of businesses. ABS business surveys currently draw their list frames from the ABS Business Register. The ABS Business Register is discussed further in **Chapter 25**.

##### Area based frames

17.30 Area based frames comprise a list of non-overlapping geographic areas. These areas may be defined by geographical features such as rivers and streets. They are usually used in household surveys. Once an area is selected, a list is made of the dwellings in the area, and a sample of dwellings selected from the list. An area based frame obviates the need to maintain a complete listing of all dwellings in Australia, leading to cost savings. Examples of geographic areas that may be used to create area frames include: local government areas; census collection districts; and postcodes.

##### Auxiliary variables

17.31 Auxiliary variables are characteristics of each unit for which information is known on the frame prior to the survey. Auxiliary variables can be used in the sample design to better target the population of interest if the information on the frame is of sufficiently high quality and is correlated with the variables of interest in the survey. They can also be used in the estimation process in conjunction with the survey data.

### Frame problems

17.32 For most sampling methodologies, it is desirable to have a complete list from which to select a sample. However, in practice it can be difficult to compile such a complete list and therefore **frame bias** may be introduced. Frame bias occurs when an inappropriate frame is used or there are problems with the composition of the frame, with the result that the frame is not representative of the target population. Frames become inaccurate for many reasons. One of the most common problems is that populations change continuously, causing frames to become out of date. Frames may also be inaccurate if they are compiled from inaccurate sources. The following are some of the problems that can occur in the composition of frames.

17.33 **Undercoverage** occurs when some units in the target population that should appear on the frame do not. These units may have different characteristics from those units which appear on the frame, and therefore results from the survey will not be representative of the target population.

17.34 **Out of scope units** are units that appear on the frame but are not elements of the target population. Selection of a number of out of scope units in the sample reduces the effective sample size, and increases standard errors. Furthermore, out of scope units appearing on the frame may be incorrectly accounted for in the estimation process which may lead to bias in survey estimates.

17.35 **Duplicates** are units that appear more than once on the frame. The occurrence of duplicates means that the probability of selection of the units on the frame is not as it should be for the respective sample design. In particular, the duplicate units will have more than the correct chance of selection, introducing bias towards the characteristics of these units. Duplicates also increase standard errors.

17.36 **Deaths** are units that no longer exist in the population but are still on the frame. Deaths have the same impact on survey results as out of scope units.

17.37 The **quality of auxiliary variables** can affect the survey estimates of the variables of interest through both the survey design and the estimation process.

17.38 The ABS attempts to minimise frame problems and uses standardised sample and frame maintenance procedures across collections. Some of the approaches taken are to adjust estimates using new business provisions (explained further in **(Chapter 25)**), and to standardise across surveys the systems for handling estimation, imputation and outliers (explained in Estimation and Weighting).

### PROBABILITY SAMPLES

17.39 Probability samples are samples drawn from populations such that every unit in the population has a known, or calculable, non-zero probability of selection which can be obtained prior to selection. In order to calculate the probability of selection, a population frame must be available. The sample is then drawn from this frame. Alternatives to probability samples are samples formed without a frame, such as phone-in polls.

17.40 Probability sampling is the preferred ABS method of conducting major surveys, especially when a population frame is available. Probability samples allow estimates of the accuracy of the survey estimates to be calculated. They are also used in ABS surveys as a means of avoiding bias in survey results. Bias is avoided when either the probability of selection is equal for all units in the target population or, where this is not the case, the effect of non-equal probabilities is allowed for in estimation.

### STRATIFIED SAMPLING

17.41 Stratified sampling is a technique which uses auxiliary information available for every unit on the frame to increase the efficiency of a sample design. Stratified sampling involves the division (stratification) of the population frame into non-overlapping, homogeneous (similar) groups called strata, which can be treated as totally separate populations. A sample is then selected independently from each of these groups, and can therefore be selected in different ways for different strata, e.g. some strata may be sampled using 'simple random sampling' while others may be 'completely enumerated'. These terms are explained below. Stratification variables may be geographical (e.g. State, capital city/balance of State) or non-geographical (e.g. number of employees, industry, turnover).

17.42 All surveys conducted by the ABS use stratification. Household surveys use mainly geographic strata. Business surveys typically use strata which are related to the economic activity undertaken by the business, for example industry and size of the business (the latter based on employment size).

#### Completely enumerated strata

17.43 Completely enumerated (CE) strata are strata in which information is obtained from all units. Strata that are completely enumerated tend to be those where: each population unit within the stratum is likely to contribute significantly to the estimate being produced (such as strata containing large employers where the estimate being produced is employment); or there is significant variability across the population units within the stratum.

### SIMPLE RANDOM SAMPLING

17.44 Simple random sampling is a probability sampling scheme in which each possible sample of the required size has the same chance of selection. It follows that each unit of the population has an equal chance of selection.

17.45 Simple random sampling can involve units being selected either with or without replacement. Replacement sampling allows the units to be selected multiple times, whereas without replacement sampling allows a unit to be selected only once. In general, simple random sampling without replacement produces more accurate results as it does not allow sample to be 'wasted' on duplicate selections. All ABS surveys that use simple random sampling use the 'without replacement' variant. Simple random sampling without replacement is used in most ABS business surveys.

## SYSTEMATIC SAMPLING

17.46 Systematic sampling is used in most ABS household surveys, and provides a simple method of selecting the sample. It involves choosing a random starting point within the frame and then applying a fixed interval (referred to as the 'skip') to select members from a frame.

17.47 Information on auxiliary variables can be used in systematic sampling to improve the efficiency of the sample. The units in the frame can be ordered with respect to auxiliary variables prior to calculating the skip interval and starting point. This approach ensures that the sample is spread throughout the range of units on the frame, ensuring a more representative sample with respect to the auxiliary variable.

17.48 Systematic sampling with ordering by auxiliary variables is only useful if the frame contains auxiliary variables about each of the units in the population, and if these variables are related to the variables of interest. The relationship between the variables of interest and the auxiliary variables is often not uniform across strata. Consequently it is possible to design a sample survey with only some of the strata making use of auxiliary variables.

## PROBABILITY PROPORTIONAL TO SIZE SAMPLING

17.49 Probability proportional to size sampling is a selection scheme in which units in the population do not all have the same chance of selection. With this method, the larger the unit with respect to some measure of size, the greater the probability that unit will be selected in the sample. Probability proportional to size sampling will lead to unbiased estimates, provided the different probabilities of selection are accounted for in estimation.

## CLUSTER SAMPLING

17.50 Cluster sampling involves the units in the population being grouped into convenient clusters, usually occurring naturally. These clusters are non-overlapping, well-defined groups which usually represent geographical areas. The sample is selected by selecting a number of clusters, rather than directly selecting units. All units in a selected cluster are included in the sample.

## MULTI-STAGE SAMPLING

17.51 Multi-stage sampling is an extension of cluster sampling. It involves selecting a sample of clusters (first-stage sample) and then selecting a sample of population units within each selected cluster (second-stage sample). The sampling unit changes at each stage of selection. Any number of stages can be employed. The sampling units for any given stage of selection each form clusters of the next-stage sampling units. Units selected in the final stage of sampling are called final-stage units (or ultimate sampling units). The Survey of Employee Earnings and Hours uses multi-stage sampling - businesses (the first-stage units) selected in the survey are asked to select a sample of 'employees' (the final-stage units) using employee payrolls. Household surveys also use multi-stage sampling.

## MULTI-PHASE SAMPLING

17.52 Multi-phase sampling involves collecting basic information from a sample of population units, then taking a sub-sample of these units (the second-phase sample) to collect more detailed information. The second-phase sample is selected using the basic information supplied, using the information collected in the first phase, and allows the second-phase sample to be targeted to the specific population of interest. Population totals for auxiliary variables, and values from the first-phase sample are used to weight the second-phase sample for the estimation of population totals.

17.53 Multi-phase sampling aims to reduce sample size and the respondent burden and collection costs while ensuring that a representative sample is still selected from the population of interest. It is often used when the population of interest is small and difficult to isolate in advance, or when detailed information is required. Multi-phase sampling is also useful when auxiliary information is not known for all of the frame units, as it enables the collection of data for auxiliary variables in the first-phase sample.

17.54 The first-phase sample is designed to be large to ensure sufficient coverage of the population of interest, but only basic information is collected. The basic information is then used to identify those first-phase sample units which are part of the population of interest. A sample of these units is then selected for the second-phase sample. Therefore the sampling unit remains the same for each phase of selection. If multi-phase sampling was not used, detailed information would need to be collected from all of the first-phase sample units to ensure reasonable survey estimates. Therefore, multi-phase sampling reduces the overall respondent burden.

## ESTIMATION

17.55 Sample survey data only relate to the units in the sample. Therefore the sample estimates need to be inflated to represent the whole population of interest. Estimation is the means by which this inflation occurs.

17.56 The following section outlines various methods of calculating the population estimates from the sample survey data. It then describes various editing procedures used in labour-related statistics to improve the population estimates.

## WEIGHTING

17.57 Estimation is essentially the application of weights to the individual survey, and summing these weighted records to estimate totals. The value of these weights is determined with respect to one or more of the following three factors:

- the probability of selection for each survey unit (probability weighting);
- adjustment for non-response to correct for imbalances in the characteristics of responding sample units (post-stratification); and
- adjustments to agree with known population totals for auxiliary variables - to correct for further imbalances in the characteristics of the selected sampled units (post-stratification, ratio estimation, calibration).

17.58 Weights are determined using formulae (estimators) of varying complexity.

## NUMBER-RAISED ESTIMATION

17.59 Number-raised weights are given by  $N_h/n_h$  (where  $N_h$  is the total number of units in the population for the stratum, and  $n_h$  is the number of responding units in the sample for that stratum). The weight assigned to each survey unit indicates the number of units in the target population that the survey unit is meant to represent. For example, a survey unit with a weight of 100 represents 100 units in the population. Each survey unit in a stratum is given the same weight. Number-raised weights can only be used to weight simple random samples.

17.60 Advantages of number-raised estimation are: it does not require auxiliary data; it is unbiased; and the accuracy of the estimates can be calculated relatively simply. However, number-raised estimation is not as accurate as some other methods with the same overall sample size.

## RATIO ESTIMATION

17.61 Ratio estimation involves the use of known population totals for auxiliary variables to improve the weighting from sample values to population estimates. It operates by comparing the survey sample estimate for an auxiliary variable with the known population total for the same variable on the frame. The ratio of the sample estimate of the auxiliary variable to its population total on the frame is used to adjust the sample estimate for the variable of interest.

17.62 The ratio weights are given by  $X/x$  (where  $X$  is the known population total for the auxiliary variable, and  $x$  is the corresponding estimate of the total based on all responding units in the sample). These weights assume that the population total for the variable of interest will be estimated by the sample equally as well (or poorly) as the population total for the auxiliary variable is estimated by the sample.

17.63 Ratio estimation can be more accurate than number-raised estimation if the auxiliary variable is highly correlated with the variable of interest. However it is subject to bias, with the bias increasing for smaller sample sizes and where there is lower correlation between the auxiliary variable and the variable of interest.

## POST-STRATIFICATION

17.64 Post-stratification estimation also involves the use of auxiliary information to improve the weighting from sample values to population estimates. Subgroups of the survey sample units are formed based on auxiliary variables after the survey data have been collected. Estimates of subgroup population sizes (based on probability weighting) are compared with known subgroup population sizes from independent sources. The ratio of the two population sizes for each subgroup is used to adjust the original estimate for the variable of interest (based on probability sampling).

17.65 Post-stratification is used to refine the estimation weighting process by correcting for sample imbalance and, assuming that the survey respondents are representative of missing units, correcting for non-response. For example, in the Labour Force Survey, the sample is post-stratified by age, sex, capital city/rest of State, and State/Territory of usual residence. Estimates of the number of people in these subgroups based on Census data are then compared to the estimates based on the survey sample to give the post-stratification weights.

## CALIBRATION

17.66 Calibration essentially uses all available auxiliary information to iteratively modify the original weights (based on number-raised weights). The new weights ensure that the sample estimates are consistent with the various auxiliary information. Both post-stratification and ratio estimation can be used as part of the calibration weighting process. Calibration is useful if the survey sample estimates the need to match the unit totals for a number of different subgroups or for more than one auxiliary variable. It is mostly used in Special Social Surveys. For example, the Survey of Employment and Unemployment Patterns was weighted so that the survey estimates aligned with both population estimates based on Census data and estimates of the number of people 'employed', 'unemployed' and 'not in the labour force' from the Labour Force Survey.

## EDITING

17.67 Editing is the process of correcting data suspected of being wrong, in order to allow the production of reliable statistics. The aims of editing are:

- to ensure that outputs from the collection are mutually consistent: for example, two different methods of deriving the same value should give the same answer;
- to correct for any missing data;
- to detect major errors, which could have a significant effect on the outputs; and
- to find any unusual output values and their causes.

17.68 The purpose of editing is to correct non-sampling errors such as those introduced by misunderstanding of questions or instructions, interviewer bias, miscoding, non-availability of data, incorrect transcription, non-response, and non-contact. Non-response occurs when all (total non-response) or part (partial non-response) of a questionnaire is not completed by the respondent. Non-response is a serious problem and can cause bias in the sample based estimates.

17.69 Editing is also used to identify outliers. The statistical term 'outlier' has several definitions depending on the context in which it is used. Here it is used loosely to describe extreme values that are verified as being correct, but are very different from the values reported by similar units, and are expected to occur only very rarely in the population as a whole. In practice, an outlier is usually considered to be a unit that has a large effect on survey estimates of level, on estimates of movement, or on the sampling variance. This may occur because the unit is not similar to other units in the stratum - for example, if its true employment is much greater than the frame employment. It may also occur when an extreme value is recorded for some variable from an otherwise ordinary sampling unit. The presence of outliers in the sample, particularly in strata with small sampling fractions (**footnote 1**), may result in grossly inadequate estimates, unless they are treated in a

special way.

## Imputation

17.70 Imputation involves supplying a value for a non-responding unit, or to replace 'suspect' data. Imputation methods fall into three groups:

- the imputed value may be derived from other information supplied by the respondent;
- the imputed value may be derived from information supplied by other similar respondents in the current survey; and
- the values supplied by the respondent in previous surveys may be modified to derive a value.

Three of the imputation methods used in labour-related surveys are described below.

17.71 **Deductive imputation** involves correcting a missing or erroneous value by using other information that reveals the correct answer. For example, a response of 18,000 has been given where respondents have been asked to reply in '\$000s' and where the expected range of responses is 13-21. A quick examination of other parts of the form shows that \$18,000 is very likely the amount actually spent by the respondent, so 18,000 is 'corrected' to 18.

17.72 **Central-value imputation** involves replacing a missing or erroneous item with a value considered to be 'typical' of the sample or sub-sample concerned. Live respondent mean is an example of central-value imputation. This technique involves calculating the average stratum value for the data item of interest across all responding live units in the stratum, and assigning this value to all live non-responding units in the stratum.

17.73 **Cold-deck imputation** involves using previous survey data to amend items which fail edits. It may involve copying data from the previous survey cycle to the current cycle. One specific example of this type of imputation is Beta imputation, which involves estimating missing values by applying an imputed growth rate to the most recently reported data for these units, provided that data have been reported in either of the two previous periods.

## Adjustments for outliers

17.74 When adjusting for outliers, a compromise is always necessary between the variability and bias associated with an estimate. There are two methods available for dealing with outliers. Historically the ABS has used the 'surprise outlier' approach for most business surveys, but over time has gradually changed over to using 'winsorization'.

### Surprise outlier approach

17.75 Generally, this technique is used to deal with a selected unit which is grossly extreme for a number of variables. The approach treats each outlier as if it were the only extreme unit in the stratum population. The outlier is given a weight of one, as if it had been selected in a CE stratum. As a result of the outlier's movement to the CE stratum, the weight for units in the outlier's selection stratum has to be recalculated, as the population and sample size have effectively been reduced by one. This has the effect that the other population units which would have been represented by the outlier are now represented by the average of the other units in the stratum. Therefore the choice of treatments for a suspected outlier using the surprise outlier approach are either for it to represent all of the units it would normally represent or to represent no units other than itself. It is preferable to set a maximum number of surprise outliers which can be identified in any one survey.

### Winsorizing technique

17.76 This technique is a more flexible approach. Here a value is considered to be an outlier if it is greater than a predetermined cutoff. The effect of the outlier on the estimates is reduced by modifying its reported value.

17.77 On application of the winsorization formula, sample values greater than the cutoff are replaced by the cutoff plus a small additional amount. The additional amount is the difference between the sample value and the cutoff, multiplied by the stratum sampling fraction. Thus winsorization has most impact in strata with low sampling fractions, and the impact decreases as sampling fractions increase. Effectively, winsorization results in the outlier only representing itself, with the remaining population units that would have been represented by the outlier being instead represented by the cutoff.

## TIME SERIES ESTIMATES

17.78 Time series are statistical records of various activities measured at regular intervals of time, over relatively long periods. Data collected in irregular surveys do not form time series. The following section outlines the various elements of time series and outlines the ABS method of calculating seasonally adjusted and trend estimates.

17.79 ABS time series statistics are published in three forms: original, seasonally adjusted and trend.

17.80 **Original estimates** are the actual estimates the ABS derives from the survey data or other non-survey sources. Original estimates are composed of trend behaviour, systematic calendar related influences and irregular influences.

17.81 **Systematic calendar related influences** operate in a sustained and systematic manner that is calendar related. The two most common of these influences are seasonal influences and trading day influences.

17.82 **Seasonal influences** occur for a variety of reasons.

- They may simply be related to the seasons and related weather conditions such as warmth in summer and cold in winter. Weather conditions that are out of character for a particular season, such as snow in summer, would appear as irregular, not seasonal, influences.
- They may reflect traditional behaviour associated with various social events (e.g. Christmas and the associated holiday season).
- They may reflect the effects of administrative procedures (e.g. quarterly provisional tax payments and end of financial year activity).

17.83 **Trading day influences** refer to activity associated with the number and types of days in a particular month, as different days of the week often have different levels of activity. For instance, a calendar month typically comprises four weeks (28 days) plus an extra two or three days. If these extra days are associated with high activity, then activity for the month overall will tend to be higher.

17.84 Seasonal and trading day factors are estimates of the effect that the main systematic calendar related influences have on ABS time series. These evolve to reflect changes in seasonal and trading patterns of activity over the life of the time series, and are used to remove the effect of seasonal and trading day influences from the original estimates.

17.85 **Seasonally adjusted estimates** are derived by removing the systematic calendar related influences from the original estimates. Seasonally adjusted estimates capture trend behaviour, but still contain irregular influences that can mask the underlying month to month or quarter to quarter movement in a series. Seasonally adjusted estimates by themselves are only relevant for sub-annual collections.

17.86 **Irregular influences** are short term fluctuations which are unpredictable and hence are not systematic or calendar related. Examples of irregular influences are those caused by one-off effects such as major industrial disputes or abnormal weather patterns. Sampling and non-sampling errors that behave in an irregular or erratic fashion with no noticeable systematic pattern are also irregular influences.

17.87 **Trend estimates** are derived by removing irregular influences from the seasonally adjusted estimates. As they do not include systematic, calendar related influences nor irregular influences, they are a measure of the underlying behaviour of the series.

## CALCULATION OF TREND ESTIMATES

17.88 Trend estimates are produced by smoothing the seasonally adjusted series using a statistical procedure based on Henderson moving averages. At each survey cycle the trend estimates are calculated using a centred x-term Henderson moving average of the seasonally adjusted series. The moving averages are centred on the point in time at which the trend is being estimated. The number of terms used to calculate the trend estimates varies across surveys. Generally, ABS monthly surveys use a 13-term Henderson moving average and quarterly surveys use a 7-term Henderson moving average.

17.89 Estimates for the most recent survey cycles cannot be calculated using the centred moving average method as there are insufficient data to do so. Instead, alternative approaches that approximate the smoothing properties of the Henderson moving average are used - such as asymmetric averages. This can lead to revisions in the trend estimates for the most recent survey cycles until sufficient data are available to calculate the trend using the centred Henderson moving average. Revisions of trend estimates will also occur with revisions to the original data and re-estimation of seasonal adjustment factors.

## RELIABILITY OF ESTIMATES

17.90 The accuracy of an estimate refers to how close that estimate is to the true population value. Where there is a discrepancy between the value of the sample estimate and the true population value, the difference between the two is referred to as the 'error of the sampling estimate'. The total error of the sampling estimate results from two types of error:

- sampling error - errors which occur because data were obtained from only a sample rather than the entire population; and
- non-sampling error - errors which occur at any stage of a survey and can also occur in censuses.

17.91 All ABS data are subject to one or both of these types of errors. The following section provides further information on both sampling and non-sampling error and describes various measures of each.

## SAMPLING ERROR

17.92 Sampling error equals the difference between the estimate obtained from a particular sample and the value that would be obtained if the whole survey population were enumerated. It is important to consider sampling error when publishing survey results, as it gives an indication of the accuracy of the estimate and therefore reflects the importance that can be placed on interpretations. For a given estimator and sample design, the expected size of the sampling error is affected by how similar the units in the target population are and the sample size.

### Variance

17.93 Variance is a measure of sampling error that is defined as the average of the squares of the deviation of each possible estimate (based on all possible samples for the same design) from the expected value. It gives an indication of how accurate the survey estimate is likely to be, by measuring the spread of estimates around the expected value. For probability sampling, an estimate of the variance can be calculated from the data values in the particular sample that is generated.

17.94 Methods used to calculate estimates of variance in ABS labour-related surveys are outlined below.

- **Jack-knife** - this method starts by dividing the survey sample into a number of equally sized groups (replicate groups), containing one or more units. Pseudo-estimates of the population total are then calculated from the sample by excluding each replicate group in turn. The jack-knife variance is derived from the variation of the respective pseudo-estimates around the estimate based on the whole sample. This method is used in a number of household surveys, including the Labour Force Survey (from November 2002), Supplementary surveys (from August 2005), the Multi Purpose Household Survey (MPHS) and some labour-related business surveys.
- **Ultimate cluster variance** - this method is used in some multi-stage sampling schemes (see previous explanation of multi-stage sampling), and involves using the variation in estimates derived from the first-stage units to estimate the variance of the total estimate. This method is used in the Survey of Employee Earnings and Hours.
- **Split halves** - this method involves dividing the sample into half and, from each half, obtaining an independent estimate of the total. The variance estimate is produced using the square of the difference of these estimates. Variations of the split halves method for calculating variance estimates were used in a number of household surveys including the Labour Force Survey prior to November 2002 and Supplementary surveys prior to August 2005.

17.95 The variances indicated in ABS household survey publications are generally based on models of each survey's variance. The variances for a range of estimates are calculated using one of the above methods and a curve is fitted to the results. This curve indicates the level of variance which could be expected for a particular size of estimate.

### Standard Error (SE)

17.96 The most commonly used measure of sampling error is called the standard error. The standard error is equal to the square root of the variance. An estimate of the standard error can be derived from either the population variance (if known) or the estimated variance from the sample units. Any estimate derived from a probability based sample survey has a standard error associated with it (called the standard error of the estimate). The main features of standard errors are set out below.

- Standard errors indicate how close survey estimates are likely to be to the expected population values that would be obtained from a census conducted under the same procedures and processes.
- Standard errors provide measures of variation in estimates obtained from all possible samples under a given design.
- Small standard errors indicate that variation in estimates from repeated samples is small, and it is likely that sample estimates will be close to the true population values, regardless of the sample selected.
- Estimates of standard errors can be obtained from any probability sample - different random samples will produce different estimates of standard errors.
- Standard errors calculated from survey samples are themselves estimates and thus also subject to sampling error.
- When comparing survey estimates, statements should be made about the standard errors of those estimates.
- Standard errors can be used to work out **confidence intervals**. This concept is explained below.

### Confidence Interval (CI)

17.97 A confidence interval is defined as an interval, centred on the estimate, with a prescribed level of probability that it includes the true population value (if the estimator is unbiased) or the mean of the sampling distribution (if the estimator is biased). Estimates from ABS surveys are usually unbiased.

17.98 Estimates are often presented in terms of a confidence interval. Most commonly, confidence intervals are constructed for 68%, 95%, and 99% levels of probability. The true value is said to have a given probability of lying within the constructed interval. For example:

- 68% chance that the true value lies within 1 standard error of the estimate (2 chances in 3).
- 95% chance that the true value lies within 2 standard errors of the estimate (19 chances in 20).
- 99% chance that the true value lies within 3 standard errors of the estimate (99 chances in 100).

17.99 Confidence intervals are constructed using the standard error associated with an estimate. For example, a 95% confidence interval is equivalent to the survey estimate plus or minus two times the standard error of the estimate. Therefore, if the sample survey estimate of a variable was 100 and the estimate had a standard error of 10, the 95% confidence interval could be expressed: "we are 95% confident that the true value of the variable of interest lies within the interval [80, 120]".

### Relative Standard Error (RSE)

17.100 Another measure of sampling error is the relative standard error (RSE). This is the standard error expressed as a percentage of the estimate. Since the standard error of an estimate is generally related to the size of the estimate, it is not possible to deduce the accuracy of the estimate from the standard error without also referring to the size of the estimate. The relative standard error avoids the need to refer to the estimate, since the standard error is expressed as a proportion of the estimate. RSEs are useful when comparing the variability of population estimates of different sizes. They are commonly expressed as percentages.

17.101 Very small estimates are subject to high RSEs which detract from their usefulness. In ABS labour-related statistical publications, estimates with an RSE greater than 25% but less than 50% have an asterisk (\*) displayed beside the estimate, indicating they should be used with caution. Estimates with an RSE greater than 50% have two asterisks (\*\*) displayed beside the estimate, indicating they are so unreliable as to detract seriously from their value for most reasonable uses.

### NON-SAMPLING ERROR

17.102 Non-sampling error refers to all other errors in the estimate. Non-sampling error can be caused by non-response, badly designed questionnaires, respondent bias, interviewer bias, collection bias, frame deficiencies and processing errors. It is often difficult and expensive to quantify non-sampling error.

17.103 Non-sampling errors can occur at any stage of the process, and in both censuses and sample surveys. Non-sampling errors can be grouped into two main types: systematic and variable. Systematic error (called bias) makes survey results unrepresentative of the population value by systematically distorting the survey estimates. Variable error can distort the results on any given occasion, but tends to balance out on average over time.

### Reducing non-sampling error

17.104 Every effort is made to minimise non-sampling error in ABS surveys at every stage of the survey, through careful design of collections, and the use of rigorous editing and quality control procedures in the compilation of data. Some of the approaches adopted are listed below.

- Reducing frame deficiencies - refer to paragraphs 17.32 to 17.38 above.
- Reducing non-response - non-response results in bias in the estimate because it is possible the non-respondents have different characteristics to respondents, leading to an under-representation of the characteristics of non-respondents in the sample survey estimate. The ABS pursues a policy of intensive follow up of non-respondents. This includes multiple visits or telephone calls in an attempt to contact respondents, and letters requesting compliance with the survey. Partial non-response is also followed up with

respondents.

- Reducing instrument errors - these errors relate to poor questionnaire design, leading to questions which are not easily understood by respondents, and hence incorrect responses. This is particularly relevant for household surveys. The ABS ensures that all household survey questionnaires are carefully tested using cognitive testing, and dress rehearsals of the survey before it is officially conducted. New business survey questionnaires and additional questions in business surveys are also rigorously tested before they are introduced.

### Measures of non-sampling error

17.105 Non-sampling error is difficult to quantify; however, an indication of the level of non-sampling error can be determined from a number of quality measures. These include:

- Response rates - the number of responding units in a survey expressed as a proportion of the total number of units selected (excluding deaths). Response rates can also be calculated for individual questions within a survey.
- Imputation rates - the number of responses which need to be imputed expressed as a proportion of the total number of responses.
- Coverage rates - an estimate of the proportion of units in the target population which are not covered by the frame.
- Any Responsible Adult rates - the number of responding units in a survey for which information was supplied by a responsible adult rather than personally, expressed as a proportion of the total number of responding units. Any Responsible Adult rates can only be calculated for household surveys. For further information on personal interview and Any Responsible Adult collection methodologies, see paragraphs 17.11 to 17.12.

## OUTPUT

17.106 The ABS's objectives in dissemination are to ensure widespread availability of information, while recovering the marginal costs involved in providing products and services for private benefit.

17.107 To meet the ABS's 'public good' obligations, the main findings of statistical collections and statistical reports on matters of public interest are made available free of charge to the community via the media. ABS publications are made available free to the general public. In addition, the ABS conducts a Library Extension Program within 515 libraries participating throughout Australia. These libraries are provided with free ABS publications and some electronic services to meet the needs of their local communities. Free access is also available to selected statistics on the ABS website ([www.abs.gov.au](http://www.abs.gov.au)).

17.108 The ABS policy of charging is intended to serve four main purposes:

- to enable the demand for ABS products and services to be used as a more reliable indicator of how ABS resources should be used;
- to encourage users to address their real needs for ABS products and services;
- to relieve the general taxpayer of those elements of the cost of the statistical services which have specific and identifiable value to particular users; and
- to promote sensible investment in client service facilities.

17.109 A number of international agencies, including the International Monetary Fund and the ILO, have put forward a range of proposals and guidelines for the dissemination of data including: the methodology of their collection and compilation, and evaluation as to their accuracy; relevance to the phenomena measured; and quality of the output. In particular, the ILO at its 1998 ICLS endorsed a set of 20 guidelines concerning dissemination practices for labour statistics. The ICLS Guidelines can be found on the ILO website at the following address: <http://www.ilo.org/public/english/bureau/stat/standards/guidelines/index.htm>. The ILO guidelines, and a comparison of these guidelines with ABS practice, are contained in the Appendix.

## DISSEMINATION MEDIA

17.110 The ABS uses a range of media for the dissemination of labour statistics but, in line with clients' preferences, publications are the prime release medium and are available in both printed and electronic form.

17.111 In addition to publications, a range of other dissemination media are used in the release of labour statistics. The ABS produces, free of charge, a quick reference information service for basic statistical information, including information on labour statistics. The service operates in response to telephone calls, email, correspondence and personal visits. The ABS also offers information consultancy services on a fee for service basis, for clients requesting more complex information.

17.112 Confidentialised Unit Record Files are available for some labour collections. These files contain the responses received for each unit in the survey, with any identifying information removed or perturbed to ensure that no respondents can be identified from the dataset.

17.113 The ABS offers a range of subscription services including AusStats and ABS@. AusStats and ABS@ are both web-based information services making the ABS standard product range available on-line. Information available through AusStats and ABS@ includes: all ABS publications from 1998 onwards in Adobe Acrobat format (.pdf); multi-dimensional datasets in SuperTABLE format; Census Basic Community Profiles to the Statistical Local Area level in Excel spreadsheet format; and a range of free summary information including Main Features, Release Advises and Australia Now. AusStats is accessed through the ABS web site and offers a number of subscription plans to suit different requirements. The ABS@ service, which is replicated daily onto the Intranets of subscribing organisations, enables all staff within those organisations to access ABS services.

## CONFIDENTIALITY

17.114 All releases of data from the ABS are confidentialised to ensure that no unit (e.g. person or business) is able to be identified. The ABS applies a set of rules, concerning the minimum number of responses required to contribute to each data cell of a table, and the maximum proportion that any one respondent can contribute to a table cell, to ensure that information about specific units cannot be derived from published survey results.

17.115 In some instances it is not possible to confidentialise responses from businesses that contribute substantially to a data cell. In this case, agreement is sought from the business for their data to still be published. If agreement is not reached, all affected data cells are suppressed.

## DATA COMPARABILITY OVER TIME

17.116 The ABS aims to produce consistent and comparable time series of data by minimising changes to ongoing surveys. However, the frequency of collection, collection and sample methods, concepts, data item definitions, classifications and time series analysis techniques are all subject to maintenance, change and/or development.

17.117 The desire for comparable data must be balanced with a requirement for data to remain relevant. In addition, sound survey practice requires careful and continuing maintenance and development to ensure the integrity of the data and the efficiency of the collection. Some survey features are reviewed regularly, while others are changed only as the need arises. For example, the sample design for the Labour Force Survey is, in part, based on information from the Population Census (conducted every five years), and is therefore reviewed on a five-yearly cycle. Updates to the seasonally adjusted and trend series resulting from time series analysis are also changed regularly.

17.118 On the other hand, irregular changes to questionnaires may arise from:

- changes in international recommendations (these usually occur infrequently);
- changes in local needs or conditions;
- reviews of ABS data standards, such as changes to the Industry and Occupation classifications;
- changes to population frames, such as the Business Register; and
- developments in ABS collection methods, such as the introduction of telephone interviewing or computer assisted personal interviewing.

17.119 Changes to ABS surveys which affect the comparability of data over time are usually documented in the explanatory notes of survey publications. Changes to individual labour-related surveys which have occurred to date are also summarised in subsequent chapters.

## FURTHER INFORMATION

17.120 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. The sampling fraction for a stratum is defined as  $n_h/N_h$  (where  $n_h$  is the number of units selected in the stratum and  $N_h$  is the size of the population of the stratum). <back

[Previous Page](#)

[Next Page](#)

# Chapter 25. Methods Used in ABS Business Surveys

[Contents](#) >> [Methods](#) >> [Business Collections](#) >> [Chapter 25. Methods Used in ABS Business Surveys](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 15 December, 2005.**

## INTRODUCTION

25.1 This chapter provides an overview of the survey methodology used in ABS business surveys, particularly the labour-related business surveys. It should be used in conjunction with **Chapter 17** which provides a broad overview of ABS survey methodology, and Chapters 24-31 which provide more detail on aspects of survey design relevant to specific labour-related business surveys.

## ABS BUSINESS REGISTER

25.2 The ABS maintains a register of businesses and other organisations (government departments, non-profit organisations etc.) operating in Australia (referred to as the ABS Business Register) which is the source of population frames for most ABS surveys of businesses. The largest businesses have complex operating structures, but the vast majority of businesses on the business register have simple operating structures. Information recorded on the business register includes: location of the business (state/territory), sector (public/private), industry in which the business is mainly engaged, type of entity (e.g. company, trust, partnership, etc.) and its employment. The register is regularly updated to add new businesses, record ceased businesses as 'dead' and change information about existing businesses.

25.3 The source of information for the majority of businesses on the ABS Business Register is the Australian Business Register (ABR), which is maintained by the Australian Taxation Office (ATO). The ABR was established by the ATO as part of the implementation of The New Tax System (TNTS) which was introduced from 1 July 2000. The ABR contains details of businesses and other organisations which have registered for and received an Australian Business Number (ABN) from the ATO. To register for an ABN, an applicant must be either a company or an entity carrying on an enterprise. Businesses with an annual turnover of \$50,000 or more and non-profit institutions with an

annual turnover of \$100,000 or more must register for the Goods and Services Tax (GST) (and receive an ABN), while those with a lower turnover may choose to register. Most businesses, whether employing or non-employing, need to register with the ATO for GST and other taxation obligations including (for employers) Pay As You Go Withholding (PAYGW).

25.4 Previously, the ABS Business Register used ABS data to update information relating to businesses, and information from the ATO to identify new businesses and businesses no longer operating. Following the introduction of TNTS, the ABS moved to use the Australian Business Register, together with additional information from the ATO, as the source of information for the majority of businesses included on the ABS Business Register. Additional information is collected and recorded by the ABS for some businesses (generally those with more complex operating structures). Changes to the ABS statistical infrastructure arising from TNTS are described in **Information Paper: Improvements in ABS Economic Statistics [Arising from The New Tax System]** (cat. no. 1372.0). The impact of the infrastructure changes on labour market series (e.g. job vacancies, average weekly earnings) are noted in the chapters describing specific labour-related surveys. Changes to the ABS statistical infrastructure impacted initially on September quarter 2002 collections.

## SCOPE OF THE ABS BUSINESS REGISTER

25.5 The ABS Business Register includes most businesses with an ABN on the ABR. To be included on the ABS Business Register businesses must have an ABN and be registered with the ATO for at least one type of tax obligation. The relatively insignificant economic activity of businesses which fall below the threshold for needing an ABN, and have chosen not to apply for an ABN, and illegal economic activity, remain outside the conceptual scope of the ABS Business Register.

## STATISTICAL UNITS DEFINED ON THE ABS BUSINESS REGISTER

25.6 The ABS uses a statistical units model to describe the characteristics of businesses, and the structural relationships between related businesses on the ABS Business Register. The units model is also used to break groups of related businesses into relatively homogeneous components that can provide information to the ABS. The statistical units model described below was introduced in mid 2002.

25.7 The new units model allocates businesses on the ABS Business Register to one of two sub-populations. The vast majority of businesses are in what is called the ATO Maintained Population (ATOMP), while the remaining businesses are in an ABS Maintained Population (ABSMP). Together, the ATOMP and the ABSMP make up the ABS Business Register population.

## ATO MAINTAINED POPULATION

25.8 As outlined above, most businesses and organisations in Australia need to obtain an Australian Business Number (ABN), and are then included on the ABR. Most of these businesses have simple structures and the unit registered for an ABN satisfies ABS statistical requirements. For these businesses, which comprise the ATOMP, the statistical unit is the 'ABN unit'.

25.9 All information required to support the ATOMP on the ABS Business Register is sourced from the ATO. This information is updated on a quarterly basis. During the quarterly update, new businesses and businesses ceasing to operate are identified. Changes to data items for ongoing units are also identified.

## ABS MAINTAINED POPULATION

25.10 For the population of businesses where the ABN unit is not suitable for ABS statistical requirements, the ABS maintains its own units structure through direct contact with the business. These businesses constitute the ABS Maintained Population. This population consists typically of large, complex and diverse businesses. The ABS units model for the ABSMP consists of three inter-related unit types:

<b>Enterprise Group</b>	This is a unit covering all the operations in Australia of one or more legal entities under common ownership and/or control. It covers all the operations in Australia of legal entities which are related in terms of the current Corporations Law (as amended by the Corporations Legislation Amendment Act 1991), including legal entities such as companies, trusts, and partnerships. Majority ownership is not required for control to be exercised.
<b>Enterprise</b>	The enterprise is an institutional unit comprising (i) a single legal entity or business entity, or (ii) more than one legal entity or business entity within the same Enterprise Group and in the same institutional sub-sector (ie. they are all classified to a single Standard Institutional Sector Classification of Australia sub-sector). For further information on Standard Institutional Sector Classification of Australia (SISCA) refer to <b>Chapter 16</b> .
<b>Type of Activity Unit (TAU)</b>	The TAU is comprised of one or more business entities, sub-entities or branches of a business entity within an Enterprise Group that can report production and employment data for similar economic activities. When a minimum set of data items are available, a TAU is created which covers all the operations within an industry sub-division (and the TAU is classified to the relevant sub-division of the Australian and New Zealand Standard Industrial Classification). Where a business cannot supply adequate data for each industry, a TAU is formed which contains activity in more than one industry sub-division. For further information on the Australian and New Zealand Standard Industrial Classification (ANZSIC) refer to <b>Chapter 16</b> .

25.11 The majority of businesses in the ABSMP fall into the following categories:

- all enterprise groups with employment of 100 or greater for which the ABN unit is not suitable for ABS statistical purposes;
- large Not for Profit Institutions (NPIs);
- all commonwealth and state government units and local government units for which the ABN unit is not suitable for ABS statistical purposes;
- multi-state ABN units with employment of 200 or more (not included above) for which state benchmarks are required;
- significant mining and manufacturing Unincorporated Joint Ventures (UJV); and
- agriculture units.

25.12 Units in the ABSMP are maintained via a combination of personal profiling, mail profiling and targeted unit survey activity. The large, more complex units are profiled annually. The balance of the ABSMP is maintained on a rotating basis within a reasonable timeframe.

25.13 For further information on the ABS economic statistics units model, refer to **Information Paper: Improvements in ABS Economic Statistics [Arising from The New Tax System]** (cat. no. 1372.0).

## THE COMMON FRAME

25.14 Each quarter a snapshot of the ABS Business Register, referred to as the common frame, is taken. The snapshot of the register is used as the frame for all sub-annual business surveys covering the reference quarter for which the snapshot was extracted. This common timing ensures that populations and sampling information are consistent across all surveys with a common reference period.

## NEW BUSINESS PROVISIONS

25.15 New business provisions are adjustments made to survey estimates to account for births and deaths of businesses that have occurred up to the end of the survey reference period but which are not reflected on a survey frame (i.e. births and deaths which occur after the snapshot is taken but before the end of the survey reference period). The calculation of the new business provisions makes assumptions about the number of new ABN registrants which will result in births of ABN units on the ABS Business Register, and the average contribution of these birthed units to the item being estimated. The methodology assumes that the contribution of a new business is the same as the average contribution to estimates of like units already on the frame.

## SCOPE AND COVERAGE OF ABS BUSINESS SURVEYS

25.16 The scope of ABS business surveys varies across collections. Most surveys using the ABS Business Register as a frame have either an industry orientation (e.g. monthly retail surveys) or an economy-wide orientation (e.g. the Economic Activity Survey and the labour-related business surveys). The scope of surveys that use the business register as a frame is restricted by the scope and coverage of the register itself (see discussion above). Surveys with broader or different scope are required to either supplement the business register for their frame, or use frames that have been constructed independently of the register by using relevant alternative data sources.

25.17 While the scope of ABS labour-related business surveys varies across collections, most are restricted to employing businesses (those which have registered for the ATO's PAYGW Scheme). However, the following groups of employing businesses are generally excluded from labour-related business surveys:

- Employing businesses in the agriculture, forestry and fishing industry (ANZSIC Division A). Units in this industry are excluded, primarily because a very high proportion of agricultural enterprises have no employees. It would be disproportionately costly to survey a sufficient number of these businesses to obtain a sample of employees large enough to adequately represent this industry.
- Private households employing staff (ANZSIC Group 970). There is incomplete coverage of private households employing staff on the ABS Business Register as not all such households are required to register with the Australian Taxation Office. It is because of their incomplete coverage on the business register that these units are excluded from the scope of the labour-related business surveys.
- Foreign embassies, consulates etc. in Australia (ANZSIC Group 813). Practical collection difficulties and the low numbers of Australian employees involved have resulted in the exclusion of this industry group from the labour-related business surveys. Furthermore, the System of National Accounts does not consider these agencies to be resident units of the Australian economy, with the result that the associated compensation of employees (including those employees who are usual residents of Australia) is not a component of Australian GDP.

## STATISTICAL UNITS USED IN ABS BUSINESS SURVEYS

25.18 The statistical units used in ABS business surveys vary across collections.

25.19 For business surveys using the ABS Business Register as a survey frame, the sampling unit most commonly used is the ABN unit for businesses with simple structures, and the TAU for businesses with complex structures. For these surveys, the sampling unit (i.e. the ABN unit or the TAU) is often the same as the other statistical units (e.g. reporting and collection units) used in the survey. However, this is not always the case and in some surveys the statistical units differ.

25.20 For business surveys using alternative frames, the sampling unit usually corresponds to one of the economic units defined on the ABS Business Register.

25.21 For labour-related business surveys, a variety of statistical units are used. With the exception of the Industrial Disputes collection, all labour-related business surveys use the ABS Business Register as their frame. An independent frame is constructed for the Industrial Disputes collection. The sampling unit most commonly used for labour-related business surveys is the ABN unit (for businesses with simple structures), and the TAU (for businesses with complex structures) for each state of operation of the ABN unit/TAU (**footnote 1**). The collection and reporting unit used in the labour-related business surveys usually corresponds to the sampling unit. Where organisations are unable to provide data at the TAU/state level, special reporting units are created to collect information from the level within the organisation structure at which it is available. These special reporting units comprise either an aggregation of TAU/state units into larger units or a disaggregation into smaller units. In cases where a TAU/state unit is disaggregated into a large number of similar small units, a sub-sample of these units is selected in order to reduce the reporting load on the providers.

## COLLECTION METHODS USED IN ABS BUSINESS SURVEYS

25.22 Most ABS business surveys use either the mail-out/mail-back or the telephone interview collection methodology. A number of surveys use administrative by-product data. Please refer to **Chapter 16** for further explanation of different collection methodologies.

25.23 Most business surveys, including the labour-related business surveys, have intensive follow-up procedures for non-response. Follow-up normally involves reminder letters and may also involve telephone contact. 'Priority' intensive follow-up is used for a number of surveys; this involves targeting the following types of non-responding units:

- units that contribute significantly to estimates;

- newly selected units (e.g. in ongoing surveys); and
- units that did not respond in the previous survey cycle.

## SAMPLE DESIGN USED IN ABS BUSINESS SURVEYS

25.24 Two types of business surveys are undertaken by the ABS: censuses, and probability sample surveys. Most ABS business surveys (whether they be censuses or sample surveys) use the ABS Business Register to create their survey frame. With the exception of the Industrial Disputes collection, all labour-related business surveys construct their frame from the ABS Business Register. An independent frame is constructed each month for the Industrial Disputes collection.

25.25 Once a survey frame has been compiled, whether it be from the ABS Business Register or another source, information is collected from certain businesses on the frame. In a census, information is collected from all of the units on the frame. In the case of probability sample surveys, information is collected from a random sample (or subset) of units on the frame.

## SAMPLE SELECTION

25.26 When a sample is to be selected for an ABS business survey, a survey frame must first be drawn from the common frame (see paragraph 25.14). The survey frame is then divided (stratified) into groups (strata) with similar characteristics. The stratification variables used in the labour-related business surveys include state, sector (public/private), industry and employment size. Once the frame has been stratified, a small number of strata containing large or highly variable units are completely enumerated. For each of the remaining strata an equal probability sample is taken. Surveys using multi-stage selection processes (such as the Survey of Employee Earnings and Hours) use additional steps to select their sample.

25.27 There are various constraints placed on sample selection. For most labour-related business surveys, sample selection is constrained by ensuring that a portion of the sample that is not completely enumerated is rotated, and that small businesses will be in the sample for no more than 12 successive quarters (for quarterly surveys other than the Labour Price Index). Some surveys are further constrained by ensuring that there is either minimal or maximal overlap with other surveys.

25.28 The level of sample rotation within surveys, and sample overlap between surveys, is controlled through the use of a system of synchronised sampling. The technique relies on assigning a permanent random number between 0 and 1 to each unit on the ABS Business Register. Samples selected from survey frames constructed from the ABS Business Register are restricted to those units with random numbers that lie in a certain interval. Rotation control is achieved by moving the interval to the right, and overlap control is achieved by constraining the selection interval for each survey to move within a specific range within the larger (0,1) interval.

25.29 Sample sizes vary across ABS business surveys. In determining the minimum required sample size for each survey, the following factors are taken into consideration:

- the required level of accuracy from the survey;
- the numbers of nil and defunct units on the survey frame (estimated from data obtained from other surveys);
- the expected level of non-response (estimated from previous surveys); and
- total cost and available resources.

25.30 The sample is allocated across the survey strata using techniques to minimise the variance of the estimates being produced for a fixed cost, or to minimise the cost for a fixed variance. This process is referred to as optimal allocation.

## ESTIMATION METHODS USED IN ABS BUSINESS SURVEYS

25.31 Once survey data have been obtained, they must be weighted up to values that represent the whole (target) population. As discussed in **Chapter 17** the estimation procedure is essentially the application of weights to the individual survey records. For ABS business surveys, the values of these weights are determined with respect to one or more of the following factors:

- the probability of selection for each survey unit (probability weighting);
- adjustments to agree with population benchmarks - to correct for imbalances in the characteristics of the selected sampled units (post-stratification, ratio estimation);
- adjustments to account for problems with the survey frame - such as missing units (new business provisions); and
- adjustment for non-response - to correct for further imbalances in the characteristics of responding sample units (post-stratification).

25.32 For censuses, aggregates need to be adjusted to account for non-response and problems with the frame.

## ESTIMATION

25.33 Two main types of estimates are used in surveys constructing their frame from the ABS Business Register, namely number-raised estimation and ratio estimation. While some surveys rely solely on number-raised estimation, most will use ratio estimation in some strata. The labour-related business surveys use stratum-by-stratum ratio estimation in strata where the benchmark information is known and sampling efficiencies achievable are greater than with number-raised estimation; for strata where benchmark information is not available, number-raised estimation is used. Number-raised estimation and ratio estimation are discussed further in **Chapter 17**.

## EDITING

25.34 Editing is used in ABS business surveys to correct a number of non-sampling errors such as those introduced by misunderstanding of questions or instructions, miscoding, non-availability of data, incorrect transcription, non-response and non-contact. Editing can be performed both on the values collected from respondents and on the accumulated survey results as part of the estimation process.

25.35 Some labour-related business surveys use 'significance editing' to reduce the editing load for the survey. Significance editing involves assessing each survey value to be edited against how greatly the survey estimate will be affected by using the unedited value. Only those values which will significantly affect the survey estimate are then edited.

## NON-RESPONSE ADJUSTMENT

25.36 Adjustments for non-response are made in the estimation process for all business surveys. There are three categories of non-response for ABS business surveys: partial non-response; complete non-response; and refusal. The extent to which values are imputed depends upon the amount and the quality of data already provided. Partial imputation is used when the respondent has provided some data. Complete imputation is used when no data have been provided, or the respondent has refused to participate in the collection.

25.37 There are two sources from which imputed values can be derived for business surveys. The first is data provided by the particular unit to be imputed for. This may be data previously provided, or current data where a partial response provides some information. One specific example of this type of imputation is 'Beta imputation'. Beta imputation is an automatic imputation procedure that involves estimating the missing values by applying a growth rate to the most recently reported data for these units, provided that data have been reported in either of the two previous quarters. Collections run on an infrequent or one-off basis will not be able to use data previously provided for the imputation of a current missing value.

25.38 The second source is data provided by other units believed to have similar responses to the missing data. One specific example of this type of imputation is Live Respondent Mean (LRM) imputation. LRM imputation generates a mean response from a group of similar units and uses this value to impute for units which are known or taken to be alive, but for which no other information is available or useful. Records imputed using the 'mean' do not contribute to estimates of variance.

25.39 Another example of using data from similar units is Hot-Deck imputation, where a non-responding unit is assigned the reported values of a responding unit which has similar characteristics. Hot-Deck imputation can be used where no historical information is available but a mean impute is not appropriate.

25.40 For complete non-response and refusals in completely enumerated strata, all data items for the unit are imputed, preferably using previously provided data. For complete non-response and refusals in other strata, the unit can have data items imputed using the Live Respondent Mean, although imputation based on previously provided data is preferred. Where a live respondent mean is used it can be calculated explicitly for all data items or can be implemented via a weight adjustment technique. Refer to **Chapter 17** for further information on non-response adjustment.

## OUTLIERS

25.41 Two main methods for the treatment of outliers are used in ABS Business Surveys, namely Surprise Outlier and Winsorization. For further explanation of these methods see **Chapter 17**.

## NEW BUSINESS PROVISIONS

25.42 New business provisions are used in the estimation process to allow for births and deaths of businesses that have occurred up to the end of the survey reference period but which are not reflected on a survey frame. The provisions are determined following the creation of the common frame, but are not applied until estimation. For further information, refer to paragraph 25.15.

## RESPONSE RATE

25.43 The response rate for ABS business surveys is calculated as the number of responding units divided by the total number of live units in the sample.

## FURTHER INFORMATION

25.44 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. Prior to the September 2002 quarter, most labour-related business surveys used the management unit/state (MUS) as the statistical unit. In most cases, ABN unit/TAU accords with the management unit. <back

[Previous Page](#)

[Next Page](#)

## Concepts and Sources

[Contents >> Concepts and Sources](#)

This section contains the following subsection :

- Chapter 2. Currently Economically Active Population
- Chapter 3. Employment
- Chapter 4. Employment Measures and Classifications
- Chapter 5. Underemployment

Chapter 6. Unemployment  
Chapter 7. Not In the Labour Force  
Chapter 8. Measures of Underutilised Labour  
Chapter 9. Usually Economically Active Population  
Chapter 10. Other Measures of the Economically Active Population  
Chapter 11. Job Vacancies  
Chapter 12. Earnings, Employee Compensation, Labour Costs and Related Statistics  
Chapter 13. Industrial Relations  
Chapter 14. Labour Productivity  
Chapter 15. Occupational Injuries and Diseases  
Chapter 16. Other Classifications Used in Labour Statistics

[Previous Page](#)

[Next Page](#)

## Household Collections

[Contents >> Methods >> Household Collections](#)

This section contains the following subsection :

Chapter 18. Methods Used in ABS Household Surveys  
Chapter 19. The Australian Census of Population and Housing  
Chapter 20. Labour Force Survey  
Chapter 21. Labour Force Supplementary Surveys  
Chapter 22. Multi-Purpose Household Survey  
Chapter 23. Survey of Employment Arrangements and Superannuation  
Chapter 24. Survey of Employment and Unemployment Patterns

[Previous Page](#)

[Next Page](#)

## Chapter 26. Industrial Disputes Collection

[Contents >> Methods >> Business Collections >> Chapter 26. Industrial Disputes Collection](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 08 December, 2004.**

### INTRODUCTION

26.1 The ABS has been collecting information about industrial disputes since 1913. The Industrial Disputes Collection produces quarterly estimates of the number of industrial disputes (where ten or more working days are lost), employees involved, and working days lost. The data are used to support analysis and monitoring of industrial disputation in Australia.

### COLLECTION OUTPUT

26.2 Estimates from the collection are released quarterly in **Industrial Disputes, Australia** (cat. no. 6321.0.55.001), available free from the ABS web site. The publication contains a small number of summary tables, with more detailed tables being available as electronic spreadsheets through the ABS web site, AusStats and ABS@, or on request. Prior to March quarter 2004, the publication (cat. no. 6321.0) was issued monthly.

26.3 A number of series are produced from the collection, for disputes which occurred during the period and for disputes which ended during the period. These series include:

- number of industrial disputes
- number of employees involved
- number of working days lost
- number of working days lost per thousand employees

26.4 Disputes which ended during the period are further classified according to:

- cause of dispute
- working days lost per employee involved
- reason work resumed

26.5 Estimates are cross classified by State or Territory and industry.

26.6 Estimates are compiled according to the concepts and definitions outlined in **Chapter 13**.

### SCOPE

26.7 Industrial disputes are included within the scope of the Industrial Disputes collection if the work stoppages amount to ten or more working days lost. Ten working days lost is equivalent to the amount of ordinary time which would have been worked, for example, during a stoppage of work by ten employees for one day, or by 40 workers attending a 2 hour stop work meeting (assuming they worked an 8 hour day). Disputes which involve the equivalent of less than 10 working days lost are excluded.

26.8 The following types of industrial disputes are within the scope of the Industrial Disputes collection:

- unauthorised stopwork meetings
- general strikes
- sympathetic strikes (e.g. strikes in support of a group of workers already on strike)
- political or protest strikes
- rotating or revolving strikes (i.e. strikes which occur when workers at different locations take turns to stop work)
- unofficial strikes
- work stoppages initiated by employers (e.g. lockouts).

26.9 Excluded from the scope of the collection are work-to-rules, go-slows, and bans (e.g. overtime bans). Also excluded are effects of disputes on locations other than where the stoppages occurred, such as stand-downs because of lack of materials, disruption of transport services and power cuts.

26.10 In addition, if all of the employees involved in an industrial dispute resign, that dispute is deemed to be resolved and it is excluded from the scope of the collection from the date of the employment termination.

## **COLLECTION METHODOLOGY**

26.11 Detailed information about each identified dispute is obtained using a mail-out/mail-back collection methodology. Information is generally obtained from employers and, in some cases, trade unions and/or employer associations.

26.12 The collection reference period is the calendar month, but data are compiled on a quarterly basis only.

26.13 Telephone follow-up and some written reminders of outstanding returns are undertaken after the due date.

## **FRAME DESIGN**

26.14 The statistical units for the collection are organisations involved in industrial disputes.

26.15 The frame is compiled monthly and comprises all organisations whose employees were involved in disputes during the month.

26.16 A number of sources are used to identify industrial disputes, including: Media Monitors; Reuters Business Service; union magazines; Australian and State Industrial Relations Commission Hearings Lists; and reports from government authorities. In addition, lists of organisations regularly involved in disputes are maintained.

## **FRAME UNDERCOVERAGE**

26.17 It is not always possible to identify all the organisations involved in a dispute, particularly in large disputes. When this occurs, other bodies which might be able to provide the information, such as trade unions and employer associations, are contacted. Some small disputes (particularly in small businesses) may not be identified because of the lack of media attention given to them.

## **ESTIMATION**

26.18 As the collection is a census, no weighting is required.

26.19 Generally, there is no imputation for non-response. However, for large general strikes, clerical imputation methods are used, and as many sources are referenced as possible, such as trade unions, employer organisations, media reports and employers.

## **RELIABILITY OF THE ESTIMATES**

26.20 Estimates from the collection are subject to non-sampling error (see paragraph 16.102 to 16.105).

## **DATA COMPARABILITY OVER TIME**

26.21 In order to provide a high degree of consistency and comparability over time, changes to collection methods, concepts, data item definitions and frequency are made as infrequently as possible. Significant changes have included:

**1913** Industrial Disputes collection commenced. Quarterly and annual statistics published.

**1950** Cause of dispute and Method of settlement classifications revised.

Ceased publishing the results of strikes and lockouts. These results had been defined as: in favour of the workpeople; in favour of the employer; compromise; and indefinite.

**1952** Ceased publishing details of the number of establishments involved by State/Territory and industry.

**1960** Number of disputes, number of employees involved and number of working days lost classified for the first time according to the size (in terms of the number of employees involved or the number of working days lost) of the dispute.

**1967** Working days lost per thousand employees first published.

**1968** Australian Standard Industrial Classification (ASIC) introduced; revised in 1973, 1978 and 1983.

**1970** Introduction of monthly statistics (in addition to the quarterly and annual statistics).

Cause of dispute classification revised.

**1979** Disputes and the number of employees involved categorised as either new (commenced during the reporting period) or continuing (continued from the previous reporting period, or the gap from the previous stoppage was less than 2 complete months).

**1982** Ceased publishing quarterly statistics.

Estimates of loss of wages discontinued.

<b>1988</b>	From September 1988 a dispute affecting more than one industry and/or State is counted once in each affected industry and State but only once in the Australia total. Previously, disputes affecting more than one industry and State were counted as separate disputes at the industry and State level and in the Australia total.
<b>1995</b>	Labour Force Survey estimates used as the basis for the calculation of working days lost per thousand employees. Previously, estimates from the Survey of Employment and Earnings were used, sometimes augmented by Labour Force Survey estimates.
<b>2004</b>	Australian and New Zealand Standard Industrial Classification (ANZSIC) introduced. Re-introduction of quarterly statistics.  Cause of dispute classification revised; Method of settlement classification revised and renamed 'Reason work resumed'; and Duration of dispute data item renamed 'Working days lost per employee involved'.

## FURTHER INFORMATION

26.22 Details of definitions used in the Industrial Disputes collection are included in Chapter 12.

26.23 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 2. Currently Economically Active Population

[Contents >> Concepts and Sources >> Chapter 2. Currently Economically Active Population](#)

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### INTRODUCTION

2.1 Labour statistics relate to the economic activity of the population. This chapter discusses the concepts underlying measures of the economically active population, including economic activity, the population, and the labour force framework. It also contrasts the various measures of the economically active population collected in ABS household surveys.

### CONCEPTS AND INTERNATIONAL GUIDELINES

2.2 The international standards and guidelines for measures of the economically active population are set out in the **International Labour Organisation Convention 160** and the **International Conference of Labour Statisticians Resolution 170 of 1982**. The economically active population provides the supply of labour for economic production. The economically active population is defined as all people who, during a specified time, contribute to or are available to contribute to the production of economic goods and services as defined by the **United Nations System of National Accounts (SNA)**. The International Labour Organisation (ILO), in its manual '**Surveys of Economically Active Population, Employment, Unemployment and Underemployment**', discusses the rationale for the concepts underlying the standard measures. The manual also provides guidelines on methods for their collection, by means of population censuses and surveys. The guidelines suggest that survey measures of the economically active population consider three aspects:

- the scope of the population to be covered
- the scope of economic activity
- a measurement framework for classifying the in-scope population according to their activities.

### SCOPE OF THE POPULATION

2.3 The economically active population should, in theory, include the entire population of the country who are engaged in economic activity as defined. In practice, restrictions are sometimes imposed both for legal and practical reasons (such as relevance of the measure) in a household survey context. The international standards recognise that business surveys and administrative records may be used to supplement household survey measures. Commonly, surveys aimed at measuring the economically active population are restricted to the civilian population (other than those living in institutions) above a set minimum age.

2.4 The international standards and guidelines recognise the need to exclude people below a certain age from the measures, without specifying a particular age limit. The responsibility for setting such limits lies with individual countries. Examples of factors influencing the age limit are:

- legislation governing the minimum school leaving age
- labour laws setting the minimum age for entering paid employment
- the extent of the contribution to economic activity by young people
- the cost and feasibility of accurately measuring this contribution in household surveys.

2.5 A maximum age limit is not a feature of the international guidelines but, for practical reasons, some countries do use a maximum age limit. The international guidelines also recognise the possible need, in the survey context, to exclude other population groups such as people living permanently or semi-permanently in institutions.

2.6 The international standards require that members of the armed forces be classified as employed, and recommend that, for analytical purposes, the economically active population be divided into two parts: the armed forces and the economically active civilian population. The

guidelines recognise that there may be difficulties in obtaining measures of the armed forces from labour force surveys, and that separate administrative counts may be necessary.

## ECONOMIC ACTIVITY AND THE SNA PRODUCTION BOUNDARY

2.7 The concept of economic activity underlying measures of the economically active population is compatible with the concept of economic activity used in the **SNA**. The concept of economic activity in the SNA is defined in terms of the production of goods and services falling within the SNA production boundary. In the SNA, production is viewed as a physical process in which labour and assets are used to transform inputs of goods and services into outputs of other goods and services. Economic activity covers all market production and certain types of non-market production including the production and processing of primary produce by households for their own consumption, the construction of dwellings and structures for own use, and the production of fixed assets (**footnote 1**) for own use.

2.8 While the SNA definition of the production of goods and services covers a wide range of activities, many other activities still remain outside its scope. For example, the production of domestic and personal services for consumption within the same household (such as preparing meals and caring for children) are excluded. The production of domestic and personal services is excluded because of the difficulty in producing economically meaningful estimates of their values, and because of the adverse effects their inclusion would have on the usefulness of the accounts for policy purposes and analysis of inflation and unemployment. The extension of the production boundary to include own-account household services would result in virtually the whole adult population being defined as 'economically active', unemployment would cease to exist, and employment statistics would become meaningless (SNA93, 6.22).

2.9 The SNA definition of production also excludes voluntary unpaid work associated with community charity and volunteer work. Services of this type include a wide range of welfare, sport, education, training, rescue and fire services. In general, the purpose of voluntary work is to provide a service to others which would not otherwise be available. People engaged in voluntary work do, however, contribute to national output and welfare. In recognition of this, the international guidelines contain a provision to identify people engaged in voluntary work, as well as people engaged in unpaid domestic activities falling outside the boundary of economic activity, and to classify them separately among the population not economically active (**ICLS 1982**). In addition, SNA93 recommends that the boundary of production could be extended by incorporating unpaid household work and volunteer and community work in so-called 'satellite accounts' (SNA93 21.120). These are accounting statements which are separate from, but consistent with, the existing national accounts.

## CURRENT AND USUAL ECONOMIC ACTIVITY

2.10 The international standards identify two measures of the economically active population: the currently active population measured in relation to a short reference period such as one week or one day; and the usually active population measured in relation to a long reference period such as one year.

2.11 The currently active measure provides a snapshot of the economically active population at a particular point in time. This current stock measure of the labour supply, collected at sufficiently frequent intervals, can contribute to the formation of national accounts data (particularly relating to compensation of employees), and can also be used to monitor labour market trends in general (and employment and unemployment levels in particular).

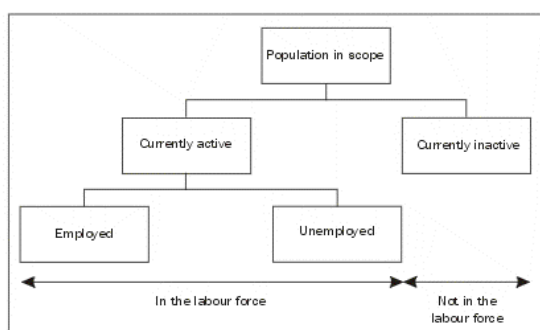
2.12 The usually active framework was introduced as an international standard in 1982. It provides a framework for the collection of data reflecting the dominant pattern of activities over a lengthy period. The use of a long reference period can provide more representative estimates of the economically active population where economic activity has significant seasonal variation. Further, as it permits collection of information on not only the main activity of individuals over the year but also their other activities (e.g. spells of employment and unemployment), it is useful for analysis of employment and income.

## THE LABOUR FORCE FRAMEWORK

2.13 The currently economically active population is also referred to as the labour force. The labour force is conceptually equivalent to the labour supply available for the production of economic goods and services in a given short reference period. The labour force is the most widely used measure of the economically active population. The term 'labour force' as defined in the international standards is associated with a particular approach to the measurement of employment and unemployment. Essentially this approach is the categorisation of people according to their activities during a short reference period using a specific set of priority rules.

2.14 The labour force framework classifies the in-scope population into three mutually exclusive categories, at a given point in time: employed; unemployed; and not in the labour force. The employed and unemployed categories together make up the labour force which gives a measure of the number of people contributing to, or willing to contribute to, the supply of labour at that time. The third category (not in the labour force) represents the currently inactive population. Diagram 2.1 shows these concepts.

### 2.1 THE LABOUR FORCE FRAMEWORK



2.15 The labour force framework includes rules for sorting the population into the three basic categories. These rules are applied in population surveys through three steps. The first involves identifying the in-scope population. The second involves identifying, within the in-scope population, those people who are engaged in economic activity as defined - either at work or temporarily absent from work. The third

step involves identifying, among the remaining people, those people who were actively seeking and available for work, or who were not seeking work because they were waiting to commence a job that they had already found. The labour force framework classifies people identified in the second step as employed, and those identified in the third step as unemployed. The residual population is classified as 'not in the labour force'.

2.16 The labour force framework rules have the following features:

- the activity principle, which is used to classify the population into one of the three basic categories in the labour force framework
- a set of priority rules, which ensure that each person is classified into only one of the three basic categories
- a short reference period to reflect the labour supply situation at a specified point in time.

2.17 The rationale for the treatment of people temporarily absent from work, and of people waiting to start a job they have already found, stems directly from the labour supply perspective, and is discussed further in **Chapter 3** (paragraphs 3.5, 3.6, 3.11 and 3.12) and **Chapter 6** (paragraphs 6.7, 6.13 and 6.14).

## ACTIVITY PRINCIPLE

2.18 The activity principle of the labour force framework requires that a person's labour force status be determined by what they were actually doing in the reference period, in terms of their engagement in, or capacity to engage in, economic activity. Commonly, surveys seek responses to a series of activity-based questions, which reflect both the reference period and the priority rules. The purpose of the activity principle is to provide an objective measure of the labour force.

### Priority rules

2.19 Under the priority rules, precedence is given to employment over unemployment and to unemployment over economic inactivity. To ensure that all economic activity is covered, a practical minimum quantity of work is required (one hour or more in the short reference period); this also ensures that only those completely without work can be classified as unemployed. Of those completely without work, the unemployed must have taken active steps to obtain work and be currently available for work. The employed, the unemployed and the inactive are thus mutually exclusive and exhaustive components of the population.

2.20 Together, the priority rules and the activity principle provide unambiguous labour force measures, regardless of other activities that may be undertaken at the same time. For example, a person at work may also be actively seeking other employment; they are currently contributing to economic production and are therefore classed as employed, despite their job search. Similarly, a person working part-time while undertaking full-time study will be classed as employed. Likewise, a full-time student who is not working and is actively seeking and available for work will be classed as unemployed.

### Reference period

2.21 The concepts of employed and unemployed need to relate to short time periods to allow meaningful measures of current levels and changes in employment and unemployment. Two short reference periods are presented in the international standards as suitable for the purpose: one week; and one day. Since employment and unemployment are stock concepts, the statistical measures would ideally be of a precise point in time. However, the closest practical time-span that could represent a single point in time is one day or one week. The choice between a one week and a one day reference period is not a recent problem but one that has been the subject of much consideration and debate by labour statisticians for over 50 years.

2.22 As a result of the application of the priority rule (under which economic activity, however little, has precedence over other, non-economic, activities), the labour force measured using a one week reference period must always be equal to or greater than the labour force measured using a single day of that reference week. The difference between the two measures depends on the relative number of people who change their activity status during a week. The differences are likely to be fairly small, because, in the course of a week, the movement of people from unemployed to employed and from employed to unemployed is more likely than people changing their status from inside the labour force to outside the labour force.

2.23 The solution adopted in the international standards aims to satisfy different conditions which exist among countries. In countries such as Australia, where regular full-time employment is dominant, similar average results will arise from the use of a reference period of a week or a single day; however, the one week reference period is likely to provide results of lower variance and is therefore preferred. Conversely, where people employed in casual, part-time, or temporary jobs constitute a significant proportion of total employment, the use of a one day reference period will provide a more precise measure of employment and unemployment than using a reference period of a week.

## EXTENSIONS TO THE LABOUR FORCE FRAMEWORK

2.24 The basic framework as outlined above can be extended to identify various sub-groups of employed (e.g. underemployed, full-time and part-time workers, and self-employed people), unemployed (e.g. long-term unemployed, youth), and people not in the labour force (e.g. people marginally attached to the labour force, discouraged job seekers). Extensions to the basic labour force framework are discussed in detail in subsequent chapters.

## DEFINITIONS USED IN ABS SURVEYS

2.25 The ABS produces estimates of the currently economically active population in a number of household surveys. Definitions of the currently economically active population used by the ABS align closely with international standards and guidelines.

### GENERAL PRINCIPLES

2.26 The ABS uses the labour force framework as outlined above for classifying the Australian population according to their labour force status (employed, unemployed or not in the labour force). Labour force status is derived by asking a series of questions about a person's work-related activities and availability for work in the reference period. The criteria for determining a person's labour force status are (broadly) as follows:

- whether a person has work (i.e. economic work, including production and processing of primary products for own consumption, own-account construction and other production of fixed assets for own use, but excluding activities such as unpaid domestic work and volunteer community services); and
- whether those who do not have work are:
  - actively looking for work; and
  - available to start work.

2.27 The determination of labour force status from these criteria is as follows:

- a person who meets the first criterion is classified as employed and hence in the labour force (currently economically active)
- a person who meets all of the subsequent criteria (i.e. without work, actively looking for work, and available to start work) is classified as unemployed and hence in the labour force (currently economically active)
- a person not classified as employed or unemployed is classified as not in the labour force (not currently economically active).

## DEFINITIONS USED IN ABS HOUSEHOLD SURVEYS

2.28 Labour force status is determined in a number of ABS household surveys. The Labour Force Survey is designed to produce precise estimates of employment and unemployment, and the definitions used align closely with international standards and guidelines. In other household surveys where labour force status is used as an explanatory or classificatory variable, it is generally not practical to determine employment and unemployment as precisely as in the Labour Force Survey. While aggregates produced from these other surveys are designed to be consistent with the international concepts of employment and unemployment, the treatment of certain small population groups is simpler than that used in the Labour Force Survey.

### Labour Force Survey

2.29 Estimates of the currently economically active population produced from the Labour Force Survey align closely with the international concepts and definitions outlined above. The paragraphs below describe the scope of the population for which estimates are made, and the definition of labour force status used in the Labour Force Survey.

#### Scope

2.30 The scope of the population for which estimates are made is confined to the civilian, 'usually resident' population aged 15 years and over. The 'usually resident' population also excludes non-Australian defence personnel (and their dependants) stationed in Australia, diplomatic personnel of overseas governments, and people who are usually resident in other countries and are temporarily (**footnote 2**) residing in Australia.

2.31 The Labour Force Survey excludes Australian defence personnel, because of practical collection difficulties and the low numbers involved. Where an estimate is required of the total labour force, for example in international comparisons collated by the ILO, survey estimates are supplemented by administrative counts of the defence forces.

2.32 An age limit of 15 years and over is used in the Labour Force Survey. Australian labour and compulsory schooling legislation have resulted in low numbers of young people being involved in economic activity. While such legislation varies from state to state, the net result is that age 15 is the lowest practical limit at which it is feasible and cost-effective to measure the participation of young people in economic activity with acceptable accuracy.

#### Labour force status

2.33 The definitions of 'employed' and 'unemployed' used in the Labour Force Survey are explained below. Diagram 2.2 illustrates the differences between 'employed', 'unemployed' and 'not in the labour force'.

2.34 **Employed** are defined as people aged 15 and over who, during the reference week:

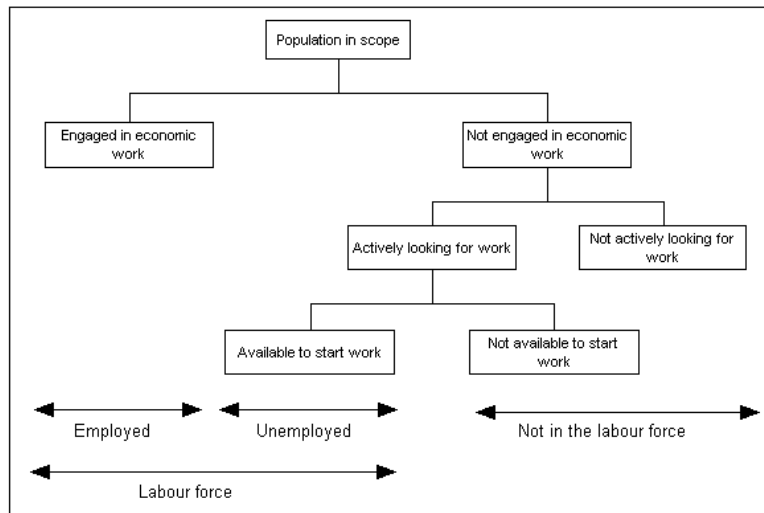
- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week; or
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or
  - away from work as a standard work or shift arrangement; or
  - on strike or locked out; or
  - on workers' compensation and expected to be returning to their job; or
- were employers or own account workers, who had a job, business or farm, but were not at work.

2.35 **Unemployed** are defined as people aged 15 and over who were not employed during the reference week, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

2.36 **Persons not in the labour force** are defined as people aged 15 and over who were neither employed nor unemployed, as defined. They include: people who were keeping house (unpaid); people who were retired, voluntarily inactive, or permanently unable to work; people in institutions (hospitals, gaols, sanatoriums, etc.); members of contemplative religious orders; and people whose only activity during the reference week was jury service or unpaid voluntary work for a charitable organisation.

## 2.2 THE LABOUR FORCE STATUS CONCEPTUAL FRAMEWORK



2.37 The section below discusses the treatment in the Labour Force Survey of particular groups of people as employed, unemployed or not in the labour force. These groups include: participants in labour market programs (such as the 'Work for the Dole' and 'Community Development Employment Projects' schemes); students; contributing family workers; and future starters.

### Participants in labour market programs

2.38 A wide range of labour market programs is provided by governments. These programs aim to: assist the efficient functioning of the labour market; help individuals and industry to improve the productivity and skills of the labour force; and improve the skills and employment prospects of people disadvantaged in the labour market. Programs implemented by governments take various forms including wage subsidies to employers, vocational training, and paid and unpaid work experience.

2.39 The Labour Force Survey does not ask any questions directly related to participation in labour market programs. Such information is neither necessary nor sufficient to determine labour force status. Individual participants are counted as employed, unemployed or not in the labour force according to economic (work-related) activity undertaken in the survey reference period. The labour force measure, based on economic activity tests, is thus consistent over time and independent of administrative changes to labour market programs or their eligibility rules.

2.40 The treatment of participants in various types of labour market programs is discussed below.

2.41 **Participants in programs involving a form of wages subsidy paid directly to employers** - people working for pay in a job for which their employer receives a government subsidy are 'working in a job' (employed) regardless of the subsidy (about which the person may have no knowledge).

2.42 **Participants in programs involving training but no subsidy (paid either to employers or participants)** - if the participant worked for pay in a job (or was temporarily away from work) during the reference week they should be classified as **employed**. If they did no paid work (and were not temporarily away from work) they are classified as either **unemployed** or **not in the labour force** depending on whether they actively looked for, and were available to commence work, in the survey reference period.

2.43 **People on a 'Work for the Dole' scheme** - 'Work for the Dole' is a government program aimed at providing work experience to improve the skills, and future (paid) employment prospects, of people registered for unemployment benefits. Under 'Work for the Dole' schemes, to maintain their eligibility for benefits, people are required to work on not-for-profit community-based projects for a number of hours per week.

2.44 Superficially, such people might be regarded as 'employed' as they are working for one hour or more and receive a payment. However, they are not paid for their work by the organisations undertaking the community projects. The participants are receiving only their unemployment benefit entitlement (**footnote 3**), paid directly by the administering government agency. As the community organisations do not have employer/employee relationships with the scheme participants, activity in a 'Work for the Dole' scheme is not considered to be engagement in an employee job.

2.45 Accordingly, the labour force status of people participating in 'Work for the Dole' schemes is determined according to economic (work-related) activity undertaken in the survey reference period.

2.46 **Community Development Employment Projects (CDEP) scheme** - this scheme of the Federal Government provides local employment opportunities for Aboriginal and Torres Strait Islander communities. Under the scheme, Indigenous communities and organisations can receive a grant, similar in value to the collective unemployment benefit entitlements of participating community members, to undertake a wide range of community development projects. Individuals can choose whether or not to participate in the scheme. Participants forgo their unemployment benefits in exchange for paid employment in the scheme. The work in which they might engage is determined by the community or organisation, and includes activities such as housing repairs and maintenance, artefact production, road works, market gardening, fishing and other business and cultural activities.

2.47 Under the Community Development Employment Projects scheme, the community meets all legal responsibilities to its workers including the provision of award wages and conditions, workers' compensation insurance, and income tax liabilities. Accordingly, an employment relationship is deemed to exist between the community (employer) and the members of the community undertaking work (employees). Participation in the scheme is considered as engagement in a paid employment job, and participants are classified as employed.

## Students

2.48 People engaged in full-time or part-time study who satisfy the criteria for classification as employed are treated in the same way as any other group. Their labour force status is determined according to economic (work-related) activity undertaken in the survey reference period.

## Contributing family workers

2.49 People working without pay in an economic enterprise operated by a related person are called 'contributing family workers'. They are classified as 'employed' if they worked one hour or more in the reference week, and as 'unemployed' or 'not in the labour force' if they did not work during the reference week.

2.50 Although ILO guidelines indicate that an unpaid family worker is a person working without pay in an economic enterprise operated by a related person living in the same household (**footnote 4**), in Australia there is no requirement for the related person to be living in the same household.

## Future starters

2.51 Future starters are those people who were not employed during the reference week, were waiting to start a job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then.

2.52 Under ILO guidelines, future starters do not have to be actively looking for work in order to be classified as unemployed. Until February 2004, the Labour Force Survey definition of unemployed only included the subset of future starters who had actively looked for work in the four weeks to the end of the reference week. Hence, the Labour Force Survey treatment of future starters was not fully consistent with the ILO standards because the precondition of active job search was not waived, so that some future starters were defined as 'not in the labour force'. From February 2004, future starters who had not actively looked for work are classified as unemployed in the Labour Force Survey, in line with ILO guidelines. Labour Force Survey estimates were revised back to April 2001 to reflect this change. This revision created a small trend break at April 2001 in unemployed persons and unemployment rate series. For further information on this change, see pages 11 and 12 of **Information Paper: Forthcoming Changes to Labour Force Statistics, 2003**.

## Other ABS household surveys

2.53 Most other ABS household surveys use one of the two alternative questionnaire modules: the reduced questionnaire module (used for personal interviews), or the self-enumerated questionnaire module, to produce estimates of the currently economically active population. While these modules are designed to be consistent with the international guidelines, there are some differences between estimates produced from the Labour Force Survey and those produced from surveys using these modules. These differences are due to differences in survey scope, and in the definitions of employment and unemployment used.

## Scope

2.54 The scope of the survey population varies across household surveys. While it is sometimes broader than that used in the Labour Force Survey, it is often narrower. All ABS household surveys are restricted to the usually resident population but, unlike the Labour Force Survey, other household surveys may not be restricted to the civilian population, nor only to people aged 15 years and over (for example the scope of the Census of Population and Housing includes all the usually resident population). However, estimates of labour force status from these surveys are generally only produced for people aged 15 years and over, or for people aged between 15 years and some upper age cutoff. Some household surveys exclude people living in non-private dwellings (**footnote 5**) from scope, and unlike the Labour Force Survey may therefore exclude various institutionalised and other people.

## Labour force status

2.55 Compared with the estimates of labour force aggregates from the Labour Force Survey, the reduced questionnaire module recommended for use in personal interviews results in higher estimates of employed, lower estimates of unemployed, and higher estimates of people not in the labour force. This arises from the simplified treatment of certain categories of people:

- the reduced questionnaire module for personal interviews does not ask respondents about the reasons they did not actively look for work. Therefore, the reduced questionnaire module does not identify those 'future starters' who had not actively looked for work (see paragraphs 2.51 and 2.52). When the reduced questionnaire module is used, these 'future starters' are classified as not in the labour force rather than as unemployed (on average, about 3% of unemployed); and
- in the Labour Force Survey, people on workers' compensation 'last week' and not returning (or who do not know if they will be returning) to work, and people away from work for four weeks or more without pay, are classified as either unemployed or not in the labour force. Where the reduced questionnaire module is used, all people absent from work, but who usually work one hour or more a week, are classified as employed (about 0.8% of employed).

Most Special Social Surveys use the reduced questionnaire module for personal interviews, to determine labour force status.

2.56 The self-enumerated questionnaire module also produces different estimates of employment, unemployment and not in the labour force, compared with the Labour Force Survey questionnaire. Some differences result from the shortened set of questions which, like the questions recommended for use in personal interview, cannot determine labour force status as precisely as the Labour Force Survey does. Other differences result from the self-enumerated nature of the questions and the inevitable differences in interpretation among respondents. As a result, labour force status from the self-enumerated questionnaire module is best used as an explanatory or classificatory variable to explain other phenomena, rather than for detailed analysis of the labour force itself. The Census of Population and Housing uses the self-enumerated questionnaire module.

## DATA SOURCES

2.57 Estimates of the currently economically active population are available from:

- the Labour Force Survey
- the Census of Population and Housing
- Special Social Surveys.

## LABOUR FORCE SURVEY

2.58 The Labour Force Survey is the official source of Australian employment and unemployment statistics. It produces estimates of the currently economically active population (labour force) according to the concepts and definitions outlined above (paragraphs 2.29-2.52). The population in scope for the Labour Force Survey is the civilian, usually resident, population aged 15 years and over. Estimates from the Labour Force Survey are available by state/territory, capital city/rest of state, and for 77 Labour Force Survey regions. (For more information on LFS regions see the article **LFS regions**, published in the July 2004 issue of **Australian Labour Market Statistics** (6105.0).) **Chapter 16** (paragraphs 16.34-16.48) provides more information on geographic classifications available from ABS household surveys. For more detail on the content and methodology of the Labour Force Survey see **Chapter 20**.

## CENSUS OF POPULATION AND HOUSING

2.59 The Census of Population and Housing uses the self-enumerated questionnaire module to produce aggregates of labour force status consistent with the international standards. However, because the self-enumerated questionnaire module uses a limited set of questions to determine labour force status, the results are not strictly comparable with those produced from other surveys (see paragraph 2.56). For these reasons, labour force status aggregates from the Census should be used with caution in analyses where labour force activities are a major focus. When comparing aggregates of labour force status from the Census of Population and Housing with aggregates from other surveys, users should also note differences in scope and methodologies across the surveys. For example the scope of the Census of Population and Housing, in including all the usually resident population (e.g. permanent defence forces as well as the civilian population), is less restrictive than that of the Labour Force Survey. Estimates from the Census are available down to the statistical local area level (**footnote 6**) See **Chapter 19** for more information on the Census of Population and Housing.

## SPECIAL SOCIAL SURVEYS

2.60 Most Special Social Surveys use the reduced questionnaire module for personal interviews to produce aggregates of labour force status consistent with international standards. However, because the reduced questionnaire module uses fewer questions to determine labour force status, the results are not strictly comparable with those produced from the Labour Force Survey (see paragraph 2.55). When comparing aggregates of labour force status from Special Social Surveys with aggregates from other surveys, users should also note differences in scope and methodologies across the surveys.

2.61 The labour-related Special Social Surveys, namely the Survey of Employment and Unemployment Patterns (**Chapter 24**) and the Survey of Employment Arrangements and Superannuation (**Chapter 23**), both produced aggregates of labour force status. Unlike most Special Social Surveys, neither of these surveys used the reduced questionnaire module to determine labour force status. Instead both surveys used questions asked in the Labour Force Survey to determine labour force status.

2.62 The Time Use Survey provides information on the daily activity patterns of people in Australia. It provides information about patterns of paid work and unpaid household and community work. The ABS has used data from the Time Use Survey to estimate the value of unpaid work falling outside conventional definitions of economic production (see paragraph 2.9). These estimates comprise unpaid household work, volunteer work and community work. For further details on the Time Use Survey see **How Australians Use Their Time 1997** (cat. no. 4153.0). For further information on ABS estimates of unpaid household work see **Unpaid Work and the Australian Economy 1997** (cat. no. 5240.0).

## MEASURES OF THE CURRENTLY ECONOMICALLY ACTIVE POPULATION

2.63 Measures of the currently economically active population include labour force participation rates, population ratios and estimates of gross flows.

### POPULATION RATIOS AND LABOUR FORCE PARTICIPATION RATES

2.64 Labour Force participation rates and other population ratios are used extensively in analyses of labour statistics, in particular to monitor changes in the size and composition of the supply of labour.

2.65 Population ratios provide information on the percentage of people in a population with certain characteristics. For example an employment to population ratio provides information on the percentage of the population in employment. Population ratios can be calculated for the entire population, or groups within the population; for example, an unemployment to population ratio for people aged 15-19 years provides information on the percentage of people aged 15-19 years who are unemployed.

2.66 The labour force participation rate for any group within the population is the labour force component of that group, expressed as a percentage of the population in the same group.

2.67 The Labour Force Survey publishes labour force participation rates and other population ratios on a regular basis. For more information on the contents and methodology of this survey refer to **Chapter 20**.

### GROSS FLOWS

2.68 Estimates of movements between labour force states (employment, unemployment, not in the labour force) from one month to the next are produced from the Labour Force Survey, and referred to as gross flows. The measurement of gross flows provides insight into the nature of changes in each of the labour force categories. For example, in a period of expanding job opportunities when unemployment is not declining, gross flows data may show that many people previously classified as not in the labour force are now satisfying the criteria for being classified as unemployed. The analysis of gross flows data also provides a good indicator of trends and cyclical activity within the labour market.

2.69 Data on gross flows are available from the Labour Force Survey. Estimates relate only to those people in private dwellings for whom information was obtained in successive surveys (about 80% of all people in the survey). For further information on estimates of gross flows and on other outputs from the Labour Force Survey, or its methodology, refer to **Chapter 20**.

## FURTHER INFORMATION

2.69 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. Fixed assets are defined in the SNA as produced assets that are themselves used repeatedly, or continuously, in processes of production for more than one year (SNA93, 10.7). < Back
2. People who are usually resident in other countries are considered to be temporarily residing in Australia if the total duration of their stay in Australia is less than 12 months. < Back
3. Plus an allowance to cover expenses associated with participation, such as transport, meals and so on. < Back
4. Hussmanns, R., Mehran, F., Verma, V., Surveys of economically active population, employment, unemployment and underemployment: An ILO manual on concepts and methods, International Labour Office, Geneva 1990. < Back
5. Non-private dwellings are establishments which provide predominantly short-term accommodation for communal or group living and often provide common eating facilities. Non-private dwellings include hotels, motels, hostels, hospitals, religious institutions providing accommodation, educational institutions providing accommodation, prisons, boarding houses, and short-stay caravan parks. Some non-private dwellings are designed for a particular purpose (e.g. hospitals) and, as such, provide accommodation for specific groups of people. For further information on non-private dwellings and ABS household survey design see paragraphs 18.11, 18.12, 18.16 and 18.30-18.32, in **Chapter 18**. < Back
6. Statistical local areas (SLAs) consist of one or more Census collection districts. In aggregate, SLAs cover the whole of Australia without gaps or overlaps. An SLA consists of a single local government area, or part thereof, or any unincorporated area. For more information see paragraphs 16.35-16.42 in **Chapter 16**. < Back

[Previous Page](#)

[Next Page](#)

## Chapter 19. The Australian Census of Population and Housing

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 19. The Australian Census of Population and Housing](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 30 March, 2006.**

### INTRODUCTION

19.1 The Australian Bureau of Statistics conducted the first Australian Census of Population and Housing in 1911. It was followed by others in 1921, 1933, 1947 and 1954. Following the 1961 Census, a census has been taken every five years. In 1977 an amendment was made to the Census and Statistics Act requiring that "the census shall be taken in 1981 and in every fifth year thereafter, and at such other times as prescribed".

19.2 The objectives of the census are threefold. They are:

- to provide information to allow the determination of electoral boundaries;
- to provide information for planning and the disbursement of government funding; and
- to provide data for the construction of a master frame for a wide variety of household surveys.

### CENSUS OUTPUT

19.3 Estimates from the 2001 Census were released in two phases, and a similar approach is proposed for the 2006 Census. For the 2001 Census, most data (approximately 80%) were released approximately 11 months after the census was conducted, with the remaining data released within the following twelve months. A number of products will provide data from the 2006 census similar to the 2001 outputs. Although many of the products released in 2001 will be available for 2006 a number of changes will be occurring, in particular relating to the dissemination platform. As was the case in 2001, the core Community Profiles will be available for 2006, however there will be some significant changes and enhancements. These products include:

- Community Profiles - sets of tables containing key census characteristics of persons, families, households and dwellings, covering most topics on the census forms. 2006 Community Profiles will be available via a new suite of electronic products on the ABS website.
- Basic Community Profiles - includes sets of tables available for all standard census geographic areas from census collection districts (CDs) to total Australia. Basic community profiles are the standard census product from which most other standard products are created. For the first time, the 2006 edition will be disseminated on a Usual Residence basis. The data content of the profiles is reviewed with each census.
- Other community profiles - a range of thematic profiles providing a standard set of two or three dimensional tables on such aspects as ethnicity, indigenous status, families, older persons, young people, place of enumeration, the working population, as well as a time series profile.
- Hard copy publications for 2006 will include an expanded Social Atlas series as well as the new 'Statistician's Report'. This report will be a national compendium publication focussing on key Census information relating to persons, families and households. It will also contain tables, graphs and thematic mapping where appropriate, along with analytical commentary about the statistics presented.

19.4 A number of additional electronic products will be produced however the majority of these will be accessed via the ABS website. They include a new suite of internet based products aimed at novice through to intermediate and the more advanced census data users. Products include:

- QuickStats : Basic summary data for your selected area of interest, along with textual descriptions.
- QuickMaps : Easy access to basic thematically maps depicting selected populations, ethnicity, education, family, income etc
- Census Topics : Enables the selection of a single table of data from a list (sourced from the Community Profiles) following the specification of a particular topic of interest by the user.
- Census Tables : Similar to Census topics however it first requires the entry of a specific geography of interest
- Community Profile Series : Detailed above.
- Detailed Area Data : For intermediate to advanced users of Census data, this product enables the specification of an individual table of cross-classified data, and which can be manipulated within the confines of a defined data cube. This may be for an individual or combined geographic area of interest. In addition it will enable the mapping and/or charting of data.
- Table Builder : Is the most advanced of our electronic product range and is aimed at the more experienced users. It will provide users with the freedom to design and populate their own tables via access to 100% of the Census Unit Record File. This product will be accessible through the ABS Remote Access Data Laboratory (RADL)

19.5 In addition to the products detailed above, the following products will also be available via CD-ROM as well as through the ABS website:

- Socio-economic Indexes for Areas (SEIFA) - these indexes are summary measures derived from Census data to reflect differences in socio-economic conditions across geographic areas. The indexes are compiled for all standard geographic areas from CD to State/Territory.
- Household Sample File - a sample file containing a one per cent sample of unidentifiable records for private dwellings and associated persons, and for persons in special dwellings. It is expected that the Household Sample File will also be available as a 5% sample through the RADL.
- Census Basics - this CD-ROM product will contain all of the Community Profile data along with digital boundary data.

19.6 The census collects data on a range of topics. The criteria used to select topics for inclusion on the census form are outlined below (paragraph 19.7). The 2006 Census will collect information on the following topics:

Socio-demographic information	Sex, age, relationship in household, marital status, usual residence on census night, usual residence one year ago, usual residence five years ago, religion, Australian citizenship, birthplace, year of arrival in Australia, Aboriginal or Torres Strait Islander origin, father's birthplace, mother's birthplace, language spoken at home, English proficiency, education, age left school, qualifications, ancestry, need for assistance, unpaid work and number of children ever born.
Labour-related information	Labour force status and income. For employed persons, information will also be collected on status in employment, occupation, hours worked, workplace address and method of travel to work. For unemployed persons, information will be collected on whether looking for full-time or part-time work.

## SCOPE AND COVERAGE

19.7 The census aims to enumerate all persons residing in Australia on census night. The census is undertaken on a 'de facto' residence rather than 'de jure' residence basis: i.e. it is based on location on census night rather than on a usual residence basis.

19.8 Persons residing in the external territories of Cocos (Keeling) Islands and Christmas Island were included in the census for the first time in 1996. Persons enumerated in the census include almost all persons in Australia on census night, whether temporary or permanent residents. The only exceptions are diplomatic personnel of other nations resident in Australia. By definition it also excludes Australian residents temporarily overseas.

## CONTENT

19.9 Topics for inclusion in the census must meet the following criteria:

- the topic is of major national importance and in accordance with the objectives of the census; and
- there is a defined need for data on the topic for small groups in the population or for small geographic areas. Otherwise, the need could be satisfied from a household survey; and
- the topic is suitable for self-enumeration and meets sensitivity and privacy constraints.

19.10 Prior to a census there is considerable consultation with clients. Client consultation for the 2006 Census was initiated by the release of **Information Paper 2006 Census: ABS Views on Content and Procedures** (Cat. no. 2007.0). This paper described the proposed topics for inclusion in the census and sought broad feedback. The paper was extensively advertised and widely distributed.

19.11 On receipt of submissions, a series of consultative meetings are held, culminating in seeking advice from the Australian Statistics Advisory Council. A report of the final recommendations is then prepared for approval by Cabinet.

19.12 Since the first national census in 1911, the content of censuses has changed. Some topics have been included in each census since 1911, for example age, marital status and religion, while others have been included or excluded depending on the importance of the topic at the time. For information on topics included in each census held from 1911 to 2006, see **How Australia Takes a Census** (Cat. no. 2903.0).

## COLLECTION METHODOLOGY

19.13 The census is self-enumerated. Forms and information booklets are distributed by census collectors to every household in Australia prior to census night. The completed forms are then collected in the week or so following census night. For the first time the Australian public will have the option to complete their 2006 Census form via the internet. The conduct of the census is complex. Various aspects of the collection methodology are discussed below. For more detail see **How Australia Takes a Census** (Cat. no. 2903.0).

## CENSUS NIGHT

19.14 The date the census is conducted is carefully chosen. Recent censuses have been conducted in August, the month in which the least

population displacement occurs. The day of the census varies, and is chosen to avoid school and other major holidays.

## COLLECTION MANAGEMENT

19.15 A hierarchical structure of temporary staff is used to deliver and collect census forms. All staff are appointed under the **Census and Statistics Act 1905** and are subject to the strict confidentiality provisions of the Act.

19.16 ABS State and Territory Offices are responsible for the management of all field staff in their State or Territory. The majority of the workforce, just under 27,000 people, are the census collectors. These deliver a Census Form and Census Guide to every household in their collection district (**Footnote 1**) prior to census night. They are also responsible for collecting forms following Census night.

19.17 As the census is self-enumerated, there is a heavy reliance on the ability of respondents to correctly interpret questions and to answer in the desired manner with the appropriate amount of detail. Collectors are encouraged to make contact with householders, since a high level of householder contact contributes to high response and a low under-enumeration rate. On receipt of the census forms from householders, census collectors are instructed to briefly scan them to ensure that they have been completed.

19.18 In total, more than 30,000 temporary field and collection staff will be involved in the delivery and collection of forms from the 2006 census. These staff need to be recruited, trained, supplied with material, supervised and paid on completion of their work. The development and logistics behind the census are enormous and require careful planning and implementation.

## FORM DESIGN AND TESTING

19.19 A program of tests is conducted before each census to decide on the layout and question wording for the census form. A series of eight tests, including a dress rehearsal, was undertaken for the 2006 Census to make the forms as easy as possible for respondents to complete.

19.20 In addition, considerable consultation takes place among a variety of work groups within the ABS to ensure that:

- the team responsible for the development of the processing system is satisfied with the positioning of response areas on the form and the way they are delineated;
- the field operation team is satisfied with the proposed form from the perspective of training the collection workforce; and
- the output team can satisfactorily use the reported data on the form as input to the compilation of specified output for publication.

## PUBLIC RELATIONS

19.21 Significant investment is made in public communication and media relations activities to support Census field operations. Specialist communication staff are employed for the Census collection period, and an advertising campaign is conducted prior to the Census to highlight the importance of the census and how the community is expected to cooperate to ensure its success.

19.22 Public figures are recruited to lend their support to the Census. In 2006, a number of public figures, community and industry organisations will be invited to lend their support to the ABS by participating in a publicity campaign endorsing the Census.

## PROCESSING OF CENSUS FORMS

19.23 A special Census Data Processing Centre is set up each census with the specific task of processing the completed census forms as quickly as possible and thereby achieving the timely release of results.

19.24 Completed census forms are examined for completeness and consistency. Write-in responses on family, qualification and occupation are coded to the appropriate classification categories.

19.25 For the 2006 Census, in cases of partial non-response imputation will be undertaken for age, geographic area of usual residence and marital status. The number of males and females in 'non-contact' private dwellings may also be imputed. The remaining data items are set to 'not stated' unless other information exists on the form which allows the determination of Aboriginal/Torres Strait Islander origin and Labour Force Status. The imputation method used for the 2006 Census is known as 'hotdecking', and is significantly different from previous methods of imputation used in the Census. In general this method involves locating a donor record and copying the relevant responses to the record requiring imputation. The donor record must have similar characteristics and must also have the required variable(s) stated. In addition the donor record is also located geographically as close as possible to the record to be imputed. For more information on imputation, see the **2006 Census Dictionary** (Cat. No. 2901.0).

## QUALITY CONTROL

19.26 As with other statistical collections, the ABS is concerned to see that high quality data are obtained from the census. To this end, extensive effort is put into the form design, collection procedures, public awareness campaign and accurate processing of the information collected.

### Field testing

19.27 The method employed to obtain information in the census involves 'self-enumeration' in which each household is asked to complete the census form with relatively little assistance from the census collector. To make sure that this approach is successful, a series of tests (**Footnote 2**) is conducted before each census to gauge public reaction to the form and the questions it contains.

### Public awareness

19.28 As well as making sure that the right questions are asked, it is essential for the achievement of quality census data that everyone understands the importance of being counted and of giving the right answers in the census. A crucial factor in this respect is the public awareness campaign, discussed above in paragraph 19.19.

## Quality assurance

19.29 Once the forms are in the Census Data Processing Centre, quality assurance procedures are implemented at all phases of processing to maximise the accurate recording of information collected and to eliminate as far as possible any inconsistencies in coding responses. Coding procedures, indexes, processing systems and training of staff are the key areas where changes can lead to improved data quality during processing.

## Residual errors

19.30 The census, like all statistical collections, is subject to a number of sources of non-sampling error (**Footnote 3**). However, testing has indicated that the effect of these errors is generally slight, although it could be more significant for analyses of data for small groups, or for very detailed cross classifications.

19.31 The four most significant sources of non-sampling error for the census are: undercounting; partial response; respondent error; and processing error. These are discussed further below.

### Undercounting

19.32 Despite efforts to obtain full coverage of people and dwellings, it is inevitable that a small number of people will be missed and some will be counted more than once. In Australia more people are missed from the census than are counted more than once. The net effect when both factors are taken into account is referred to as undercounting.

19.33 As well as affecting the total population counts, undercounting can bias other census statistics because the characteristics of missed people are different from those of counted people. In Australia, rates of undercounting vary significantly for different population groups depending on factors such as age, sex and geographic area. A measure of the extent of undercoverage is obtained from a sample survey of households undertaken shortly after the census, called the Post Enumeration Survey. Undercounting of people in the 2001 Census was estimated to be 1.8% for Australia as a whole.

### Partial response

19.34 People who are counted in the census do not necessarily answer all the questions which apply to them. While questions of a sensitive nature are generally excluded from the census, all topics have an element of non-response. However, this element can be measured and is generally low. In those instances where a response is not provided, a 'not stated' code is allocated, with the exception of non-response to age, sex, marital status and the statistical local area of usual residence. As these data are used in population estimates, these variables are imputed, using other information reported on the census form and specially constructed random tables based on the distribution of the population according to these variables at the previous census.

### Respondent error

19.35 Most occurrences of respondent error are detected and corrected during editing. However, such procedures cannot detect and correct all errors, and some remain in the final output.

### Processing error

19.36 Errors created during the processing of the census are kept at an acceptable level by means of quality assurance procedures. These involve sample checking during coding operations, and taking corrective action where necessary.

## Evaluating the outcome

19.37 After the census, an evaluation of the data is carried out to inform users about their quality, and to help plan the next census. Evaluation includes investigation into the effects of partial response, consistency checks between related questions, and comparisons with data from other sources. Much of the information gathered about the quality of census data is distributed in the form of commentary contained in census products or in published working papers reporting on the evaluation of census data quality.

## Introduced random adjustments

19.38 Minor adjustments are made to the information to allow the maximum detailed census data possible to be released without breaching the confidentiality of data reported by individual respondents. For this reason, great care should be taken when interpreting data in small cells, since possible respondent and processing errors have a greater proportional impact on them than on larger cells.

## RELIABILITY OF THE ESTIMATES

19.39 Estimates from the census are subject to non-sampling error. For further information see paragraph 19.29 above.

## DATA COMPARABILITY OVER TIME

19.40 In order to provide a high degree of consistency and comparability over time, changes are made as infrequently as possible to collection methods, collection concepts, data item definitions, frequency of collection, and analysis methods.

19.41 Table 19.1 shows the major changes to the labour-related data items in the census over its history.

## 19.1 MAJOR CHANGES TO LABOUR-RELATED DATA ITEMS IN THE CENSUS OF POPULATION AND HOUSING

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### CENSUS EVENT

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1911	Census was established by the Census and Statistics Act 1905, and conducted in April. Labour-related items included: labour force status; unemployment duration; occupation; and industry.
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1921	Census was conducted in April. Labour-related data item added: cause of unemployment.
1933	Census was delayed as a result of the economic depression, and moved to June. Labour-related items collected in the 1933 Census were the same as those collected in the 1921 Census.
1947	Census was delayed as a result of World War II, and conducted in June. Labour-related items collected in the 1947 Census were the same as those collected in the 1933 Census.
1954	Census conducted in June. Labour-related data item changes: industry - place of work also asked.
1961	Census conducted in June, and the frequency increased to five-yearly intervals. Labour-related data items collected in the 1961 Census were the same as those collected in the 1954 Census.
1966	Census conducted in June. Labour-related data items added: hours worked. Labour-related data items dropped: unemployment duration and cause of unemployment. Data released on microfiche for the first time.
1971	Census conducted in June. Labour-related data items added: journey to work - collected by coding address of usual residence and address of workplace to obtain origins and destinations of travel to work. Labour-related data item changes: hours worked - question focused on hours worked in all jobs held in the week prior to the census. ASIC introduced for industry coding.
1976	Census conducted in June. Labour-related data items added: mode of travel to work.
1977	Census and Statistics Act amended to require censuses at five-yearly intervals 'and at such other times as prescribed.'
1981	Census conducted in June. Labour-related data items changed: labour force status - Since 1981 respondents are required to answer a series of questions from which labour force status is coded; hours worked in main job - replaced hours worked in all jobs.
1986	Census conducted in June. Labour-related data item changes: occupation - an additional question on main tasks or duties performed in the job has been asked since 1986
1991	Census moved to early August after all mainland States changed from three school terms to four school terms, with holidays around the end of June. Labour-related data items the same as in 1986.
1996	Census conducted in August. Labour-related data items added: availability to start work - to achieve comparability with Labour Force Survey definition of unemployment. Labour-related data item changes: hours worked in all jobs - replaced hours worked in main job. Two stage release approach introduced, with users gaining access to a wide range of first release Census data within 12 months, and the second release data released progressively from that time.
2001	Census conducted in August. Two stage release approach expanded, with more data items available as part of the first release. Introduction of intelligent character recognition, automatic coding and the use of images rather than paper forms during processing. Option to have personal details retained and made publicly available after 99 years.
2006	Census conducted in August Introduction of the eCensus, an option allowing respondents to complete their Census form via the internet. Introduction of 'hotdecking' method of imputation for partial non-response.

## FURTHER INFORMATION

19.42 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. The collection district (CD) is the basic geographic unit of collection. A CD is generally a census workload area that one Collector can cover, delivering and collecting census forms in a specified period. For further information see paragraph 16.41. **< back**

2. For further information see paragraph 19.17 above. **< back**

3. The Census of Population and Housing, like other types of fully enumerated collections, is not subject to sampling error - see **Chapter 17** for further information. **< back**

[Previous Page](#)

[Next Page](#)

## 21.2. Employee Earnings, Benefits and Trade Union Membership

[Contents >> Methods >> Household Collections >> Chapter 21. Labour Force Supplementary Surveys >> 21.2. Employee Earnings, Benefits and Trade Union Membership](#)

### CHAPTER 21.2 EMPLOYEE EARNINGS, BENEFITS AND TRADE UNION MEMBERSHIP

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 12 April, 2006.**

## INTRODUCTION

21.2.1 This survey collects information about employees' weekly earnings, leave entitlements, employment benefits and trade union membership. The survey is conducted on an annual basis, in August of each year.

21.2.2 The collection of a range of socio-demographic and labour force characteristics makes the datasets produced from the survey extremely valuable for comparing and analysing the distribution of both weekly earnings and employment benefits across employees. Data are used in the development and review of wages and labour market policies, and in wage negotiation processes. The survey is the only reliable source of data on the distribution of trade union members by socio-demographic and labour force characteristics.

21.2.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

## SURVEY OUTPUT

21.2.4 Data from the survey have been published in **Employee Earnings, Benefits and Trade Union Membership, Australia** (cat. no. 6310.0) since 1998. Data from earlier surveys of weekly earnings, trade union members and employment benefits were published in separate publications (see paragraph 21.2.8 for further information). More detailed data are available on request.

21.2.5 The main population of interest is employees. However, employees who are paid solely in kind are excluded. Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

## SOCIO-DEMOGRAPHIC INFORMATION

Sex, age, marital status, relationship in household, family, geographic region, school attendance, birthplace and year of arrival in Australia

## EMPLOYEE CHARACTERISTICS

Occupation; industry; hours worked; full-time or part-time status; sector; size of employees workplace; whether have leave entitlements; superannuation coverage; trade union membership; and employment benefits received (see below).

## EMPLOYEE EARNINGS

Mean and median weekly earnings (in main, second and all jobs); and frequency of pay.

## LEAVE BENEFITS

Paid sick leave, paid holiday leave, paid long service leave, paid maternity/paternity leave.

## EMPLOYMENT BENEFITS RECEIVED

A number of benefits are collected on an irregular basis, including: goods and services; transport; telephone; holiday expenses; medical housing; study leave; shares; entertainment; and child care.

21.2.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (Employment Measures and Classifications), **Chapter 12** (Earnings, Employee Compensation, Labour Costs and Related Statistics), **Chapter 13** (Industrial Relations) and **Chapter 16** (Other Classifications Used in Labour Statistics).

## SCOPE

21.2.7 The scope of this survey is restricted to persons aged 15 years and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## DATA COMPARABILITY OVER TIME

21.2.8 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

### 1975

Annual survey commenced (August) - preliminary data published in **Weekly Earnings of Employees (Distribution), Preliminary** (Ref. no. 6.50) and final data in **Weekly Earnings of Employees (Distribution)** (Ref. no. 6.51). Earnings and hours worked data related to 'all jobs'.

### 1976

Survey expanded, additional data collected included 'earnings in main job' and 'hours paid'

### 1977

Catalogue numbers replaced reference numbers - cat. no. 6309.0 (preliminary data) and cat. no. 6310.0 (final data).

#### 1983

Survey expanded, additional data on employment benefits collected annually and published separately - preliminary data published in **Employment Benefits, Australia, Preliminary** (cat. no. 6332.0) and final data in **Employment Benefits, Australia** (cat. no. 6334.0). Data on employment benefits previously collected in February to May 1979 and published under the same titles. Note: data from the 1979 survey related to employees working 20 or more hours per week; from 1983 data related to all employees, but school students were assumed not to receive benefits other than leave (paid holiday, paid sick and long service), and goods and services benefits.

#### 1984

Preliminary publication for weekly earnings discontinued.

#### 1985

Employees on workers' compensation excluded from estimates.

#### 1986

Survey expanded, additional data on trade union membership in main job collected biennially and published separately - data published in **Trade Union Members, Australia** (cat. no. 6325.0) (no preliminary publication). Data on trade union membership previously collected in November 1976, and March to May 1982 and published under the same title (with Ref. no. 6.65 in 1976). Note: estimates from the 1976 survey related to trade union membership in main job and also included trade union membership of some unemployed persons (in their most recent job); estimates from the 1982 survey were restricted to employed persons and related to trade union membership in any job.

#### 1987

Definition of transport benefit broadened.

#### 1988

Preliminary publication for employment benefits discontinued.

#### 1990

Scope of survey restricted to persons aged 15-69 (for this year only).

#### 1991

Survey month changed to July (for this year only) because of the August 1981 Census post-enumeration survey. Persons attending school were not asked questions about their employment benefits other than entitlements to leave (paid holiday, paid sick and long service), and goods and services benefits.

#### 1992

Frequency of trade union membership data increased to annual. Data continued to be published separately on a biennial basis in **Trade Union Members, Australia** (cat. no. 6325.0) until 1996. Limited data were also published in **Weekly Earnings of Employees (Distribution), Australia** (cat. no. 6310.0) on alternate years (1993, 1995, 1997) until the publications were combined in 1998. Frequency of detailed employment benefits data reduced to biennial, with limited data collected on alternate years. Detailed data continued to be published separately in **Employment Benefits, Australia** (cat. no. 6334.0) until 1994. Limited data were also published in **Weekly Earnings of Employees (Distribution), Australia** (cat. no. 6310.0) in 1993. Note: in years when detailed employment benefits data were collected, persons attending school were not asked questions about their employment benefits other than entitlements to leave (paid holiday, paid sick and long service) and superannuation; in years when limited data were collected all persons were asked only about entitlements to leave (as before) and superannuation.

#### 1994

Sample restricted to no more than seven-eighths of the Labour Force Survey sample. Frequency of detailed employment benefits data reduced to irregular, with limited data collected annually (for all persons in scope of survey). Detailed data published separately in 1994 in **Employment Benefits, Australia** (cat. no. 6334.0.40.001). Limited data published annually from 1995 in **Weekly Earnings of Employees (Distribution), Australia** (cat. no. 6310.0.40.001). Standard Data Service replaced publication format.

#### 1996

Earnings data not collected, due to Census post-enumeration survey. **Weekly Earnings of Employees (Distribution), Australia** (cat. no. 6310.0) not published. Trade union membership and limited employment benefits data published in **Trade Union Members, Australia** (cat. no. 6325.0). Publication format replaced Standard Data Service.

#### 1997

Limited employment benefits and trade union membership data published in **Weekly Earnings of Employees (Distribution), Australia** (cat. no. 6310.0). Persons living in remote and sparsely settled areas excluded from scope.

## 1998

Separate publications for weekly earnings, employment benefits and trade union members discontinued and replaced with a combined publication - **Employee Earnings, Benefits and Trade Union Membership, Australia** (cat. no. 6310.0).

## 1999

Detailed employment benefits data collected for all persons in scope of survey.

## 2002

Definition of full-time or part-time status changed. Prior to 2002, full-time or part-time status in main job was based on self perception, however, from 2002 onwards it is based on the number of hours worked.

## 2004

Detailed employment benefits data collected for all persons in scope of survey.

## FURTHER INFORMATION

21.2.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Business Collections

[Contents >> Methods >> Business Collections](#)

This section contains the following subsection :

- Chapter 25. Methods Used in ABS Business Surveys
- Chapter 26. Industrial Disputes Collection
- Chapter 27. Job Vacancies Survey
- Chapter 28. Survey of Major Labour Costs
- Chapter 29. Survey of Average Weekly Earnings
- Chapter 30. Survey of Employee Earnings and Hours
- Chapter 31. Survey of Employment and Earnings
- Chapter 32. Labour Price Index
- Chapter 33. Economic Activity Survey

[Previous Page](#)

[Next Page](#)

## Chapter 27. Job Vacancies Survey

[Contents >> Methods >> Business Collections >> Chapter 27. Job Vacancies Survey](#)

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.

## INTRODUCTION

27.1 The Job Vacancies Survey was first conducted in 1974 and is a quarterly survey. The survey produces estimates of the number of job vacancies in Australia which are used as a leading indicator of employment growth, in monitoring of the Australian economy, and for formulating economic policy.

## SURVEY OUTPUT

27.2 Estimates are published quarterly in **Job Vacancies, Australia** (cat. no. 6354.0). More detailed estimates are available on request.

27.3 The main populations of interest are: civilian employee jobs, for which payments were made in the survey reference period, excluding employee jobs based outside Australia (for estimates of employees); and civilian employee job vacancies, available for immediate filling on the survey reference date, excluding vacancies for jobs based outside Australia (for estimates of job vacancies). Two main series are compiled from the survey:

- employee job vacancies; and
- employee job vacancy rates.

27.4 Data published from the first series are available on the following bases: original; seasonally adjusted; and trend (see **Chapter 17** for further explanation of original, seasonally adjusted and trend estimates). Data from the second series, job vacancy rates, are available on an original basis only.

27.5 Data from both series can be cross classified by: State and Territory; sector; and industry (ANZSIC 1 digit).

27.6 Estimates are compiled according to the concepts and definitions outlined in **Chapter 4** (employees) and **Chapter 11** (job vacancies).

## SCOPE

27.7 The scope of the survey is restricted to employing businesses (MUSs). In addition, the standard scope exclusions for ABS labour-related business surveys (outlined in **Chapter 25**) apply to this survey.

27.8 The standard scope exclusions for ABS labour-related business surveys (outlined in **Chapter 25**) apply to this survey.

## SURVEY METHODOLOGY

27.9 Details of the total number of employee job vacancies available for immediate filling on the survey reference date, and number of employee jobs for which payments were made during the survey reference period, are obtained on a quarterly basis from selected businesses. A telephone interview collection methodology is used.

27.10 The survey reference period for the number of employee jobs is the last pay period ending on or before the third Friday in the middle month of the quarter. The survey reference date for job vacancies is the third Friday in the middle month of the quarter.

27.11 Follow-up procedures are in place to obtain information from respondents who are unable to provide data at the time of the initial interview. Response rates for the survey averaged 98% in the 1998-99 financial year.

## SAMPLE DESIGN

27.12 The selection unit for the survey is Management Unit/State (MUS). The collection and reporting units used in the survey usually correspond to the selection unit. However, where the MUS unit is unable to provide information required for the survey, it may be split into a number of 'reporting units'. For further information on statistical units used in ABS business surveys refer to **Chapter 25**.

27.13 A probability sample of MUS units (employing businesses) is drawn from the ABS Business Register using the process outlined in **Chapter 25**. Variables used to stratify the survey frame are:

- State or Territory;
- industry - industry stratification is based on ANZSIC division; and
- employment size - the ranges used vary between States and Territories, sectors and industries.

27.14 Strata on the survey frame that are completely enumerated include those containing MUSs with benchmark employment greater than a set cutoff (this cutoff will vary for different States/Territories) and strata with a very small number of MUSs. Strata which are completely enumerated because they contain a low number of MUSs may become sampled strata if the number of MUSs in those strata increases sufficiently.

27.15 In addition to constraints outlined in **Chapter 25**, sample selection is constrained by ensuring that there is minimum overlap with other labour-related business surveys.

## SAMPLE SIZE AND ALLOCATION

27.16 Approximately 4,500 MUSs are selected in the sample to yield a live sample of approximately 3,800 MUSs.

27.17 The sample is allocated optimally across the strata using a technique designed to minimise the variance of job vacancies estimates at both the national and State/Territory level.

## SAMPLE ROTATION

27.18 The sample is updated each quarter to reflect changes in the ABS Business Register. Approximately 8% of the sample selected from the non-completely enumerated strata is replaced each quarter. This process is called sample rotation (see **Chapter 25** for further explanation).

27.19 Sample rotation is implemented for the majority of strata, but is not implemented where the population of a stratum is so small that units rotating out of the sample would be rotated back in after only a short interval.

## ESTIMATION

27.20 Ratio estimation is used in all strata, except in cases where there is a large proportion of units with zero benchmark employment, in which case number-raised estimation is used.

27.21 In the sampled strata the Live Respondent Mean method of imputation is used for units not responding. In the completely enumerated strata an imputed growth rate is applied to the most recently reported data for the unit, provided that data have been reported in either of the two previous quarters. Otherwise, the Live Respondent Mean is used, adjusted for the ratio of the unit's benchmark employment on the frame to the Live Respondent Mean for employment in the strata.

27.22 Survey outliers are treated using the 'surprise outlier' technique.

27.23 New Business Provisions were introduced in November 1999. Adjustments are made to survey estimates each quarter to allow for births and deaths of businesses that have occurred up to the end of the survey reference period but which are not reflected on the survey frame.

27.24 For further information on estimation methods used in ABS Business Surveys, refer to **Chapter 25**.

## TIME SERIES ESTIMATES

27.25 Both seasonally adjusted and trend estimates are produced for the job vacancies series. Data from the job vacancy rates series are available on an original basis only.

### Seasonal adjustment

27.26 The series have been seasonally adjusted from February 1984, and these historical series can be made available on request. The seasonal factors are reviewed annually to take account of each additional year's original data. The review takes place in time for the results to be incorporated in each November quarter issue of **Job Vacancies, Australia** (cat. no. 6354.0).

### Trend estimates

27.27 Trend estimates were introduced in August 1993, and are revised each quarter.

## RELIABILITY OF THE ESTIMATES

27.28 Estimates from the survey are subject to both sampling and non-sampling error. The relative standard errors of survey estimates are published in **Job Vacancies, Australia** (cat. no. 6354.0).

27.29 The 'jack-knife' approach is used to calculate estimates of variance for this survey. For further information on the jack-knife technique for calculating variance, or on sampling and non-sampling error, refer to **Chapter 17**.

## DATA COMPARABILITY OVER TIME

27.30 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and time series analysis methods are made as infrequently as possible. Significant changes have included:

<b>1974</b>	Mail-based annual Job Vacancies Survey commenced.
<b>1977</b>	Introduction of smaller scale quarterly telephone-based survey.
<b>1978</b>	Annual and quarterly surveys discontinued.
<b>1979</b>	Quarterly survey reintroduced. Treatment of Australian Public Service vacancies changed to exclude vacancies only available to public service employees.
<b>1980</b>	First collection of job vacancies registered with the CES (continued on annual basis).
<b>1982</b>	Collection discontinued of vacancies classified by sex.
<b>1983</b>	Overtime Survey merged with Job Vacancies Survey. Sample size increased, with selection from the ABS Business Register.
<b>1984</b>	Seasonally adjusted series produced for the first time (February). Annual seasonal reanalysis of data performed for the November reference period.
<b>1985</b>	Job vacancies data published by sector for the first time.
<b>1988</b>	ABS publication discontinued of job vacancies registered with the CES.
<b>1993</b>	Trend estimates published for the first time (August).
<b>1994</b>	Survey redesigned on an ANZSIC industry basis. Industry data backcast on ANZSIC basis. Sample rotation increased from 5% to 8.33% in rotating strata.
<b>1998</b>	Treatment of Australian Public Service vacancies changed (from being excluded to being included) after vacancies made available to all Australian citizens.
<b>1999</b>	Introduction of Live Respondent Mean imputation for the sampled sector, and the new business provisions adjustment for the private sector. Overtime component discontinued. Significant improvement in procedures, particularly coverage of vacancies within MUSs.

## FURTHER INFORMATION

27.31 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## Methods

[Contents >> Methods](#)

This section contains the following subsection :

Chapter 17. Overview of Survey Methods  
Household Collections  
Business Collections

[Previous Page](#)

[Next Page](#)

## Chapter 20. Labour Force Survey

[Contents >> Methods >> Household Collections >> Chapter 20. Labour Force Survey](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 8 February, 2006.**

### INTRODUCTION

20.1 The ABS has conducted the Labour Force Survey since 1960. The survey was quarterly before February 1978, and has been monthly since then. The content of the survey has remained broadly the same since its introduction, but is regularly updated to ensure that it is the most appropriate for the provision of accurate labour force statistics.

20.2 The purpose of the Labour Force Survey (LFS) is to provide timely information on the labour market activity of the usually resident civilian population of Australia aged 15 and over. The statistics of most interest each month are the estimates of the number of employed and unemployed people, the unemployment rate and the labour force participation rate. The rate of change in the number of people employed is a key indicator of the pace of economic growth. The unemployment rate (the percentage of the labour force that is unemployed) is the main measure of unutilised labour, and the participation rate (the percentage of the population in the labour force) reflects changes in total labour availability.

### SURVEY OUTPUT

20.3 Data are compiled according to concepts and definitions outlined in Chapters 2-7. Estimates are published monthly, initially in **Labour Force, Australia** (cat. no. 6202.0) and associated spreadsheets. Further results are published a week later in the more detailed 6291.0.55.001 set of spreadsheets and datacubes. More detailed estimates are available on request. In addition, Labour Force Survey data are included in the quarterly publication **Australian Labour Market Statistics** (cat. no. 6105.0).

20.4 The survey output includes:

Socio-demographic information	Sex, age, Indigenous status, marital status, relationship in household, family, participation in school and tertiary education (people aged 15-24), birthplace and year of arrival in Australia, state or territory of usual residence, and region of usual residence.
Persons in the labour force	Labour force status, unemployment rate, participation rate and gross changes (flows) in labour force status.
Persons employed	Status in employment in main job*, full-time or part-time status, hours actually worked in all jobs, hours actually worked in main job, hours usually worked in all jobs, whether expects to be with current employer in 12 months, underemployment*, preference for working more hours, reason for working less than 35 hours in the reference week, and occupation and industry in main job*.
Persons unemployed	Whether looking for full-time or part-time work, reason for ceasing last job, industry and occupation of last job*, duration of unemployment, active steps taken to find work, and whether looking for first job.
Persons not in the labour force	Whether looking for work (actively, not actively), permanently unable to work, in institutions.

\* These data are collected in the months February, May, August and November only.

20.5 Seasonally adjusted and trend (i.e. smoothed seasonally adjusted) data are available for selected series (labour force status, industry of employment, and long term unemployed). See **Chapter 17** (paragraphs 17.78-17.89) for further explanation of these terms.

### SCOPE

20.6 The Labour Force Survey includes all usual residents of Australia (**Footnote 1**) aged 15 and over except:

- members of the permanent defence forces
- certain diplomatic personnel of overseas governments, customarily excluded from census and estimated population counts
- overseas residents in Australia
- members of non-Australian defence forces (and their dependants) stationed in Australia.

20.7 Coverage rules are applied to ensure that each person is associated with only one dwelling, and hence has only one chance of selection. The chance of a person being enumerated at two separate dwellings in the one survey is considered to be negligible. People who are away from their usual residence for six weeks or less at the time of interview are enumerated at their usual residence (relevant information may be obtained from other usual residents present at the time of the survey).

## SURVEY METHODOLOGY

20.8 Labour Force Survey information is obtained by specially trained interviewers, using face to face and telephone interview collection methods, from the occupants of selected dwellings. Interviews are generally conducted during the two weeks beginning on the Monday between the 6th and the 12th of each month. Most information obtained relates to the week before the interview (i.e. the reference week). Selected dwellings remain in the survey for eight consecutive months. Information about each household member in scope of the Labour Force Survey is generally collected from one adult using the 'Any Responsible Adult' methodology (described in paragraph 17.12, **Chapter 17**).

20.9 Prior to August 1996, all interviews were conducted by face to face interview at selected dwellings. Over the period August 1996 to February 1997, the ABS introduced telephone interviewing. The first interview is conducted in person (face to face). Subsequent interviews are conducted by telephone if this is acceptable to the respondent. Telephone interviewing has been shown to provide data of a quality comparable to that obtained from personal interviews, but requires less interviewer travel time, and hence lowers the costs of the survey.

20.10 From October 2003 to August 2004, computer assisted interviewing was progressively introduced for the Labour Force Survey. Under computer assisted interviewing, interviewers record responses directly onto an electronic questionnaire in a notebook computer, rather than using the traditional 'pen and paper' method.

20.11 Other collection methods are used in special circumstances. A self-enumeration form may be used where it is not possible for an interview to take place - for instance, where contact cannot be made with the occupants of selected dwellings or when a respondent refuses to be interviewed but will complete a form. A customised form is also used for Indigenous people living in sparsely settled and Indigenous strata when interviewers encounter significant cultural and language difficulties, or when other operational difficulties occur such as the availability of suitably trained and skilled interviewers.

20.12 Interviewer workloads are completed and returned for processing according to a strict timetable. Interviewers are required to make a number of attempts to contact a household before recording a non-contact (non-response). Response rates average around 96%.

## SAMPLE DESIGN

20.13 A multi-stage probability sample design is used. The sample is drawn from the Population Survey Master Sample and has three components: a sample of private dwellings, a sample of discrete Indigenous communities, and a sample of non-private dwellings (i.e. hotels, motels, hospitals, retirement villages, etc.). The final-stage selection unit is the dwelling. After each Population Census the sample is redesigned and the sampling fractions reset.

## SAMPLE SIZE AND ALLOCATION

20.14 The Labour Force Survey is designed to provide reliable estimates of the key labour force statistics for both the whole of Australia and each state and territory. Its design also yields estimates for a number of broad regions within states.

20.15 From February 1964 until February 1972 all households in Australia had the same probability of selection in the Labour Force Survey (1 in 100), regardless of state or territory. From May 1972, different sampling fractions applied for each state/territory. The sampling fractions for the Labour Force Survey set at each post-Census redesign are shown in Table 20.1 below. Additional information about the method and timing of the introduction of each sample redesign is provided in paragraphs 20.21 and 20.22, below.

### 20.1 LABOUR FORCE SURVEY SAMPLE - REDESIGN HISTORY

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
1971 redesign	1 in 200	1 in 200	1 in 140	1 in 100	1 in 90	1 in 60	1 in 100	1 in 200
1976 redesign	1 in 200	1 in 200	1 in 140	1 in 100	1 in 90	1 in 60	1 in 100	1 in 100
1981 redesign	1 in 200	1 in 200	1 in 140	1 in 100	1 in 100	1 in 60	1 in 100	1 in 100
1986 redesign	1 in 230	1 in 230	1 in 160	1 in 115	1 in 115	1 in 70	1 in 115	1 in 115
1991 redesign	1 in 277	1 in 242	1 in 195	1 in 139	1 in 146	1 in 75	1 in 75	1 in 75
1996 redesign	1 in 300	1 in 257	1 in 222	1 in 147	1 in 160	1 in 83	1 in 85	1 in 85
2001 redesign	1 in 321	1 in 270	1 in 239	1 in 149	1 in 165	1 in 90	1 in 98	1 in 86

20.16 Following the full implementation of the 2001 sample redesign (June 2003), the sampling fractions yielded a sample size of approximately 28,600 private dwellings and 1,900 non-private dwellings. This resulted in approximately 60,000 people responding to the survey, covering about 1 in 224 (0.45%) of the population aged 15 years and over. For further information, refer to **Information Paper: Labour Force Survey Sample Design, November 2002** (cat. no. 6269.0).

## SAMPLE ROTATION

20.17 Control of provider load is a concern in all frequently repeated surveys. Since the monthly Labour Force Survey commenced in 1978, one-eighth of the sample has been replaced each month. The sample can be thought of as comprising eight sub-samples (or rotation groups), with each sub-sample remaining in the survey for eight months. A new rotation group is introduced each month to replace an outgoing rotation group. This replacement sample generally comes from the same geographic area as the outgoing one. This results in a seven-eighths common dwelling sample between consecutive surveys, which guarantees a high month-to-month correlation between estimates and contributes to the accuracy of month-to-month estimates of movement. Sample rotation also provides the opportunity to ensure that the Labour Force Survey sample reflects changes over time in the dwelling population (such as construction of new dwellings).

## SAMPLE RESELECTION

20.18 A completely new (and independent) Labour Force Survey sample is selected every five years to coincide with the reselection of the Household Survey Master Sample after each Census of Population and Housing.

## ESTIMATION

20.19 Post-stratification estimation uses independent population benchmarks at the post-stratum cell level (see **Chapter 18**, paragraphs 18.44 and 18.45, for more information on population benchmarks). Adjustments are also made to account for people enumerated outside of their state or territory of usual residence.

20.20 Prior to February 2004 the only population benchmarks were:

- state/territory of usual residence, by
- part of state of usual residence (capital city, rest of state), by
- age (ages 15-24 as single years, five-year age groups to age 69, one group for age 70 and over), by
- sex.

20.21 From February 2004 an additional set of benchmarks is used in estimation. The additional set comprises the number of people in each LFS region of usual residence (there are currently 77 LFS regions across Australia), by sex.

20.22 The use of regional benchmarks improves the quality of estimates for LFS regions, with negligible impact on estimates at national, state and territory levels. Estimates for LFS regions (available each month in electronic products) have been revised back to January 1999, to include regional benchmarks. For more information on LFS regions see the article **LFS regions**, published in the July 2004 issue of **Australian Labour Market Statistics** (cat. no. 6105.0).

20.23 The population benchmarks are revised every five years following the Census of Population and Housing. From February 2004, LFS estimates are compiled using revised population benchmarks based on results from the 2001 Census. LFS estimates for the period January 1999 to January 2004 were also revised, based on the updated population benchmarks.

## TIME SERIES ESTIMATES

20.24 Both seasonally adjusted and trend estimates are produced for key series from this survey.

### Seasonal adjustment

20.25 Selected monthly series have been seasonally adjusted from February 1978 and are available in a range of products. Quarterly historical series (from August 1966) are available on request. Concurrent seasonal adjustment was introduced from the December 2003 survey, replacing the annual forward factor method. At the same time, other improvements were made to the seasonal adjustment methodology to better handle the moving January interview start date and the proximity of Easter to the April survey period.

20.26 Concurrent seasonal adjustment uses original data up to and including the current month (or quarter for quarterly series) to estimate seasonal factors for the current and all previous months (or quarters). Seasonally adjusted estimates from this method are usually closer on average to their final values, as any change in seasonality is picked up sooner. The seasonal factors are further reviewed annually to take account of each additional year's original data if necessary. Revisions under this method are more frequent (every month for a monthly series), although the degree of revision is generally less than with the forward factor method of adjustment (where revisions are only made annually). For more information on concurrent seasonal adjustment, see **Information Paper: Forthcoming Changes to Labour Force Statistics, 2003** (cat. no. 6292.0).

### Trend estimates

20.27 Trend estimates are available for selected series dating back to February 1978. Trend estimates are produced using a centred 13-term Henderson moving average of the seasonally adjusted series for monthly estimates, and a centred 7-term Henderson moving average for quarterly estimates (e.g. employment by industry). Centred symmetric moving averages cannot be used to directly estimate smoothed series values all the way to the end of the series, since there are insufficient observations available for the moving average calculations. The ABS uses non-symmetric moving averages to determine estimates of trend at the current end of the series. Revisions of trend estimates occur as data become available for later periods (these revisions are mainly because of the non-symmetric moving averages at the end of the series, but also because of concurrent seasonal adjustment). For further information, refer to **Information Paper: A Guide to Interpreting Time Series - Monitoring Trends, 2003** (cat. no. 1349.0).

## ESTIMATES OF GROSS FLOWS

20.28 Because a high proportion of the private dwellings selected each month remain in the sample for the following month, it is possible to match the characteristics of most of the people in those dwellings from one month to the next. This makes it possible to record any changes in the labour force status of these people, and hence to produce estimates of 'gross flows' - the number of people who change labour force status between successive months.

20.29 The procedures used to select people in non-private dwellings preclude the possibility of matching such people who may be included in successive surveys. Also, the mobility of the population and non-response in either or both surveys means that a proportion of people in private dwellings who are included in the sample in successive months cannot be matched. Overall, those who can be matched (in the private dwelling sample) represent about 80% of all people in the survey. About two-thirds of the remaining (unmatched) 20% are likely to have characteristics similar to those in the matched group, but the characteristics of the other third are likely to be somewhat different.

20.30 Gross flow estimates relate only to those people in private dwellings for whom information was obtained in successive surveys. The expansion factors used in calculating the estimates are those applying to the second of each pair of months. The estimates are not adjusted to account for the unmatched sample component.

20.31 Although it is not possible to provide gross flow estimates for all people in the survey, the estimates derived from matched records are a useful guide to the proportion of the movements between categories which underlie the changes in monthly levels. When comparing flows for different periods it is important to take into account the population represented by the matched sample. Gross flow estimates are available monthly in a datacube that can be accessed via the ABS web site (see **GM1 - Labour Force Statistics and Gross Changes (flows) by Sex, State and Age** (cat. no. 6291.0.55.001)).

20.32 While every effort is made to reduce non-sampling errors to a minimum, any such errors affecting labour force status will tend to accumulate in the gross flow statistics rather than to cancel out. The estimates are also subject to sampling variability. For these reasons the estimates of flows should be used with caution.

## RELIABILITY OF THE ESTIMATES

20.33 Estimates from the survey are subject to both sampling and non-sampling error. The most commonly used measure of sampling error is the standard error. Tables of standard errors of survey estimates are published in **Labour Force, Australia** (cat. no. 6202.0). The standard errors in these tables are based on models, which allow the estimation of standard errors without requiring access to individual records. The standard error models used for the LFS are outlined in the paper **Labour Force Survey Standard Errors, 2005** (cat. no. 6298.0). The associated spreadsheet: **Labour Force Survey Standard Errors, Spreadsheets** (cat. no. 6298.0.55.001) has been developed for use in estimating estimates from the LFS. Further information about sampling and non-sampling error is available in **Chapter 17**, paragraphs 17.90-17.105.

## DATA COMPARABILITY OVER TIME

20.34 Frequency of collection, collection and sampling methods, concepts, data item definitions, classifications, and time series analysis techniques are all subject to change or development. Some survey features are reviewed regularly, while others are changed as the need arises. Despite the overriding need for long-term comparability, sound survey practice requires careful and continuing maintenance and development to maintain the integrity of the data and the efficiency of the collection.

20.35 While Labour Force Survey publications in various forms exist for a period of over 30 years and provide documentation of changes in survey practice over that time, individual historical publications are not necessarily the best source for extraction of comparable historical data series. Apart from the regular revision of seasonally adjusted and trend series, and the five yearly population benchmark revisions of original, seasonally adjusted and trend series, from time to time other revisions are made to maintain comparability after changes to questions and definitions.

20.36 The primary sources for labour force series adjusted to the most current comparable basis are:

- **AusStats**, the ABS' web-based information service (AusStats provides the ABS' full product range on-line);
- **Labour Force Australia, Historical Summary 1966-1984** (cat. no. 6204.0) (for quarterly series from August 1966 to November 1977);
- **The Labour Force 1964 to 1968 Historical Supplement** (Reference no. 6.22) (February 1964 to May 1966 data, original); and
- **The Labour Force 1977** (cat. no. 6204.0) for the last release of seasonally adjusted series for February 1964 to May 1966.

20.37 Table 20.2 shows the major events and changes to the survey over its history.

## 20.2 MAJOR CHANGES TO THE LABOUR FORCE SURVEY

SURVEY	EVENT
Nov 1960	Quarterly survey commenced. State capital cities only, including people aged 14 and over, but excluding the Aboriginal and Torres Strait Islander population. Sample of 1% of households Australia wide, with 1/8 rotation in private dwellings and 1/4 rotation in other dwellings.
Nov 1963	First release of state capital city series, November 1960-November 1963 <b>Employment and Unemployment, October 1963</b> (Ref. no. 6.4) issued February 1964. Estimates and population benchmarks based on 1961 Census data. Labour force definitions based on ICLS 1954.
Feb 1964	Quarterly national survey commenced. Capital city series continued in absence of release of national series. Capital city estimates and population benchmarks based on 1961 Census data.
Aug 1966	Scope of survey population reduced to people aged 15 and over, due to changes in the school leaving age and to conform with definitions used in the 1966 Population Census. Indigenous population included: see February 1969 revision. Additional questions introduced on steps taken to find a job. The grouping of hours worked changed to reflect recommendations from ICLS 1961. Occupation classified according to Classification and Classified List of Occupations (CCLO) 1966 Census edition. Industry classified according to Classification and Classified List of Industries (CCLI) 1966 Census edition and 1966 Group Employer Place of Work index.
Aug 1967	Additional questions introduced to better identify employees of incorporated enterprises (some of whom had previously been incorrectly classified as employers or self-employed).
Feb 1969	First release of national series in the quarterly publication <b>The Labour Force, Preliminary Estimates, August 1966-February 1969</b> (Ref. no. 6.20). Subsequent publications titled <b>The Labour Force</b> (Ref. no. 6.20). Estimates and population benchmarks from February 1964 based on 1966 Census data, state of enumeration/place of usual residence basis from February 64 onwards, including Indigenous population from August 1966 onwards.
May 1970	First release of national seasonally adjusted series.

Jul 1970	Annual issue of <b>The Labour Force, Historical Supplement 1964-1968</b> (Ref. no. 6.22) commenced, subsequent publications titled <b>The Labour Force</b> (Ref. no. 6.22).
Aug 1971	Classification of trainee teachers changed from 'employed' to 'not in the labour force', to conform with 1971 Census practice and international recommendations regarding activity principles. For the period August 1971 to August 1972, industry responses coded to both CCLI and ASIC, leading to full adoption of industry classified according to 1971 Census ASIC (August 1969 Preliminary edition) and 1971 Census Industry/Destination zone employer index from November 1972, and conversion of August 1966-May 1971 industry series to ASIC.
Nov 1971	Occupation classified according to CCLO 1971 edition, replacing CCLO 1966 version.
Feb 1972	Questions on country of birth and year of arrival in Australia added. February 1972 data published as supplementary survey results and then quarterly in <b>The Labour Force</b> (Ref. no. 6.20) from May 1972 onwards.
May 1972	Sample redesign based on 1971 Population Census, phased in from May 1972 to November 1972. Introduction of different sampling fractions across states and territories, with overall fraction reduced from 1% to 0.67%.
Nov 1972	First release of preliminary labour force estimates in the quarterly publication <b>The Labour Force (Preliminary)</b> (Ref. no. 6.32), issued in May 1973. See August 1971 note re industry coding.
Nov 1973	Seasonal adjustment of estimates for unemployed males, females and people by separate adjustment of unemployed series by sex (males, females) by age (15-19 years, 20 years and over). Previously, estimates were obtained by a (single) direct adjustment to the total estimate. Seasonally adjusted unemployment estimates February 1964-August 1973 revised. For final publication of February 1964-May 1966 seasonally adjusted series (1966-based, excluding Indigenous population) see <b>The Labour Force, 1977</b> (cat. no. 6204.0).
Nov 1974	First collection of Relationship in household data. <b>Labour Force Status and Other Characteristics of Families</b> (cat. no. 6224.0) first published as an irregular. See also <b>Labour Force, Australia</b> (cat. no. 6203.0) various issues e.g. May 1977, July 1980. First release of preliminary unemployment estimates in the quarterly publication <b>Unemployment, Preliminary Estimates</b> (Ref. no. 6.31), issued in December 1974. Relationship in household (and hence families) estimates excluded persons in institutions. 'Family status' imputed for persons in private households where any member was out of scope, absent for six weeks or more at survey, or who were a visitor. Families estimates based on proxy (household head) weight.
Feb 1975	Estimates excluded Darwin (due to effects of cyclone Tracy). Respondents asked if they looked for work in the last four weeks (previously looked for work last week). Availability question added. Unemployment series and definition continued on old basis, with separate publication of new question results until February 1976. Unemployment definition and series based on new questions adopted from May 1976.
May 1975	Estimates and population benchmarks based on 1971 Census benchmarks. Revisions to August 1966-November 1972 principal series, and from February 1973 onwards, full revision of all estimates and series (including annual seasonal factor re-analysis).
May 1976	Following February 1975 question changes, definition of unemployment revised to incorporate active job search, and availability to start work in the reference week (with separate provision for temporary illness and future starters). Series revised from February 1975.
Aug 1977	Catalogue numbers replaced reference numbers - cat. no. 6202.0 replaced Ref. no. 6.32 and cat. no. 6203.0 replaced Ref. no. 6.20.
Nov 1977	In preparation for the start of monthly surveys in February 1978 (with a new questionnaire, revised 1976 Census based sample and 1976 based population benchmarks), two surveys were conducted simultaneously in November 1977. Of these two surveys, one provided the published November 1977 results, based on the old questionnaire, the old 1971-based sample design (reduced to 0.5%), and the 1971-based population benchmarks. The other survey, based on the new questionnaire and the new, 1976-based sample, was used to prepare adjustment factors and revisions to historical estimates, so that comparable historical series could be published with the first release of February 1978 survey results. Occupation classified according to CCLO 1976 edition, replacing CCLO 1971 version. Industry classified according to ASIC 1969 edition and Integrated Business Register employer index. Catalogue numbers replaced reference numbers - cat. no. 6201.0 replaced Ref. no. 6.35.
Feb 1978	Monthly national survey commenced. The Labour Force Survey adopted as the official national measure of unemployment. Interviews conducted over 2 one-week periods, previously 4 one-week periods. Estimates and benchmarks based on 1976 Census data, with series from August 1971 onwards revised to 1976-based benchmarks. Complex mix of reweighting unit record files, and/or key series adjustment: not all files, nor all series, were revised (see <b>Labour Force Australia, Historical Summary 1966-1984</b> (cat. no. 6204.0) Appendix 1). With the full implementation of the 1976 Census based sample design, 1/8 monthly sample rotation was introduced for non-private dwellings: whole sample now subject to 1/8 rotation. New questionnaire, with substantial redesign of question wording, structure and sequence to improve data quality collected on 0.5% sample, new design. Changes included separate questions on looking for full-time/looking for part-time job; active search more clearly identified, availability and future starters better identified. Some impact on employed, main impact on unemployed seeking part-time work. New definitions of employment and unemployment adopted. Definition of unemployed persons looking for first job was revised to "unemployed persons who had never worked full time for two weeks or more". Prior to November 1977 the definition was "unemployed persons who had never had a job". August 1966-November 1977 series revised to comparable basis, as a result of new questionnaire introduction. Seasonally adjusted series continued on a quarterly basis, pending accumulation of sufficient results to permit adjustment of monthly series.
Jul 1979	Annual issue of <b>Labour Force Status and Other Characteristics of Families</b> (cat. no. 6224.0) commenced (July each year except 1981 (June), then June each year from 1986).
Nov 1979	Industry classified according to ASIC 1978 edition, replacing ASIC 1969 edition.
Aug 1981	Occupation classified according to CCLO November 1980 edition, replacing CCLO 1976 version.
Nov 1981	Minor rewording and re-ordering of categories of steps taken to look for work. No impact on data or definitions.
Feb 1982	Seasonally adjusted series introduced for monthly estimates series from February 1978 onwards. Annual seasonal factor re-analysis and series revision carried out at February each year from this survey.
Oct 1982	Full sample flipped-over to sample redesign based on 1981 Population Census, including modifications to enable production of regional estimates within states, and estimates by state of usual residence. Additional questions to identify usual residence and family relationship, with marital status questions reworded and de facto relationships coded as married. Additional identification of persons usually working less than 35 hours per week. 1981 ASGC based Labour Force Statistical Regions classification.
Dec 1982	Monthly publication <b>Unemployment, Preliminary</b> (cat. no. 6101.0) discontinued, final release issued in January 1983.
Jul 1983	Scope for 'Family status' (and hence families estimates) restricted to usual residents of private dwellings where all usual residents were within the survey scope and in on coverage at survey date. 'Family status' and families estimates thus exclude all persons in non-private dwellings, persons visiting private dwellings, or households where any member was out of scope or absent for six weeks or more at survey.

Feb 1984	Estimates and population benchmarks based on 1981 Census data. Estimates for the period October 1982 on revised to full state of usual residence basis on 1981 Census benchmarks. Estimates from February 1978 to September 1982 revised to 1981-based benchmarks but remain on the previous state of enumeration/place of usual residence basis.
Sept 1984	Monthly publication of Relationship in household and Families estimates in <b>Labour Force, Australia</b> (cat. no. 6203.0) commenced. Scope and estimation as for annual collection.
Nov 1984	Industry classified according to ASIC 1983 edition, replacing ASIC 1978 edition.
Apr 1986	Definition of employed persons altered, to include persons working 1 to 14 hours without pay in a family business or farm, in line with ILO definitions (ICLS 1982). Minor question wording and sequence changes in consequence. Significant break in series for employed, employed part-time, unemployed and related unemployment rates. Dependants definition, and the Family status item 'full-time student', includes full-time students aged 15-24 (previously aged 15-20). Weighting of families estimates changed, from proxy (household head) weight to harmonic mean of weights of all responding members of the family.
Aug 1986	Australian Standard Classification of Occupations (ASCO) introduced for classification of occupation of persons, replacing CCLO 1981.
Sept 1987 to Dec 1987	Sample redesign based on the 1986 Population Census. New sample phased in. Overall sample fraction 0.6%. 1986 ASGC based Labour Force Statistical Regions classification.
Nov 1988	Additional unemployment variable introduced: reason for ceasing last job (job losers/job leavers). No change in definition nor break in series.
Feb 1989	Estimates and population benchmarks based on 1986 Census data. All estimates for the period January 1984 onwards revised.
June 1989	'Family type' class 'Other families' split into 'One parent families' and 'Other families'.
Nov 1989	Optical Mark Recognition questionnaire design and data capture method introduced.
Sept 1992 to Dec 1992	Sample redesign based on the 1991 Population Census. New sample phased in. Overall fraction 0.5%. 1991 ASGC based Labour Force Statistical Regions classification.
Feb 1993	Introduction of seasonally adjusted and trend series for Employed persons by Industry of main job (at Industry Division level).
Jul 1993	Jervis Bay Territory excluded from the scope of the survey. Previously it was included in estimates for the Australian Capital Territory.
Feb 1994	Estimates and population benchmarks based on 1991 Census data. All estimates for the period January 1989 on revised. Status in employment class titles amended to reflect ICLS ICSE-93.
Mar 1994	'Relationship in household' and 'Family type' classifications aligned with ABS standards, resulting in some breaks in comparability with previous Family status and family type classifications.
Aug 1994	Australian and New Zealand Standard Industrial Classification (ANZSIC) introduced in place of ASIC 1983 edition. Revised historical estimates published of employment by ANZSIC group August 1984 onwards.
Aug 1995	Seasonally adjusted and trend estimates of long-term unemployment published for the first time.
Aug 1996 to Feb 1997	Telephone interviewing implemented progressively. Initial impact on data dissipated by end of implementation period.
Aug 1996	Occupation coded using Australian Standard Classification of Occupations (ASCO) Second Edition replacing the first edition of ASCO.
Sept 1997 to Apr 1998	Sample redesign phased in based on the 1996 Population Census. Overall fraction 0.5%. 1996 ASGC based Labour Force Statistical Regions classification.
Feb 1999	Estimates and population benchmarks based on 1996 Census data. All estimates for the period January 1995 on revised.
Feb 2000	Computer assisted coding introduced for industry and occupation in place of manual coding and reference to the ABS Business Register. Derivation of status in employment changed to remove reference to the ABS Business Register for limited liability information. Breaks in series for Status in employment, Industry and Occupation series.
Mar 2000 to Jul 2000	One rotation group each month enumerated by new questionnaire for evaluation purposes. Data converted to existing definitions at estimation stage.
Sept 2000	NSW enumeration one week early to allow for Olympic Games.
Apr 2001	New questionnaire implemented. For information on the changes made to the questionnaire, see Information Paper: Questionnaires Used in the Labour Force Survey, 2001 (cat. no. 6232.0). New or extended data on: job tenure; underemployment; hours worked; duration of unemployment; and marginal attachment to the labour force. Minor definitional changes to employment and unemployment relating to: short term absences; unavailability due to illness; and contributing family workers (ICLS 1982, ICSE-93, ICLS 1998). The core labour force series were revised back to April 1986 to account for these definitional changes, but the changes were not made at the unit record level at this time.
Aug 2001	Enumeration one week later than usual to avoid overlap with Population Census.
Nov 2002 to Jun 2003	Sample redesign phased in based on the 2001 Population Census. Overall fraction 0.45%. 2001 ASGC based Labour Force Statistical Regions classification introduced for the new design, replacing the 1996 ASGC based Labour Force Statistical Regions classification. Sample selection stage in less populated areas based on the ASGC Remoteness structure instead of population density. In hotels and motels, only those units occupied by usual residents enumerated. A sample frame for Indigenous communities was introduced as an aid to enumeration in the LFS and household surveys generally. For more information on the sample redesign, see <b>Information Paper: Labour Force Survey Sample Design, November 2002</b> (cat. no. 6269.0).
Feb 2003	Monthly publication <b>Labour Force, Australia</b> (cat. no. 6203.0) discontinued, final release issued in March 2003. Additional question on underemployed workers and their availability to work extra hours within four weeks of the survey date included. For more information on the changes to the questionnaire, see <b>Information Paper: Questionnaires Used in the Labour Force Survey, 2004</b> (cat. no. 6232.0).
Apr 2003	Monthly publication <b>Labour Force, Australia, Preliminary</b> (cat. no. 6202.0) renamed <b>Labour Force, Australia</b> (cat. no. 6202.0). Quarterly publication <b>Australian Labour Market Statistics</b> (cat. no. 6105.0) commenced.
Oct 2003 to Aug 2004	Computer assisted interviewing progressively implemented in place of pen-and paper questionnaire.
Dec 2003	Concurrent monthly and quarterly analysis of seasonal adjustment factors introduced in place of annual forward factor analysis and revision. For more information on concurrent seasonal adjustment, see <b>Information Paper: Forthcoming Changes to Labour Force Statistics, 2003</b> (cat. no. 6292.0).
Feb 2004	Estimates and population benchmarks based on 2001 Census data. All estimates for the period January 1999 to January 2004 revised. The definition of unemployed persons was changed to include 'future starters' (persons who had not actively looked for work because they were waiting to start a new job within four weeks from the end of the survey reference week, and could have started in the reference week if the job had been available then). These persons had previously been classified as not in the labour force. Historical series from April 2001 were revised to the new basis as part of the benchmark revision.

Unit record data revised for the period September 1997 to March 2001, to account for the definitional changes introduced in April 2001. Industry and occupation series revised back to August 2000 to include 'not further defined' categories in cases where there is not enough detail provided to allow the ABS to code people to the lowest level of these classifications. (From the introduction of computer assisted coding in 2000 until November 2003, these responses were proportionally distributed to the most detailed level of the classification.) For more information on the changes introduced in February 2004, see **Information Paper: Forthcoming Changes to Labour Force Statistics, 2003** (cat. no. 6292.0).

May 2005

Autocoding (AC) introduced for the coding of industry and occupation data. Industry and occupation codes are applied automatically by a computer matching the survey responses to an industry or occupation index. Where the AC system is unable to allocate a valid code to a record, the record is then passed on to the Computer Assisted Coding (CAC) system for coding. Comparisons of the estimates of employed persons at the industry Division and occupation Major Group level from each of the two methods showed that in a small number of cases there were statistically significant differences between the two methods. These differences were inconsistent across the months analysed, and were so small and variable, that application of adjustment factors is not warranted.

## FURTHER INFORMATION

20.38 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. From July 1993, Jervis Bay Territory has been excluded from the scope of the Labour Force Survey.< [back](#)

[Previous Page](#)

[Next Page](#)

## 21.3. Forms of Employment

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.3. Forms of Employment](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.**

### INTRODUCTION

21.3.1 The Forms of Employment Survey was conducted for the first time in August 1998. Currently the survey is intended to be conducted on a semi-regular basis, with the next survey planned for November 2001.

21.3.2 The aim of the Forms of Employment Survey is to provide information on some of the key factors relating to the nature of employment arrangements. To this end, the survey collects information on people employed in a range of situations, such as contractors, employees of labour hire firms and casuals. The survey also provided information on where people working under such arrangements would be classified in the monthly Labour Force Survey.

21.3.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

21.3.4 Data from the survey are published in **Forms of Employment, Australia** (cat. no. 6359.0). More detailed estimates are available on request, and a confidentialised unit record file from the 1998 survey is also available (cat. no. 6359.0.00.001).

21.3.5 The main population of interest is employed persons (excluding those working solely for payment in kind, and contributing family workers). Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, birthplace and year of arrival in Australia.
Employed persons	Full-time or part-time status, occupation, industry, whether has PAYE tax deducted from earnings, continuous duration with current employer/business, expected future duration with current employer/business, reason for leaving employer/business (if planning to leave), whether earnings vary, hours worked in main job in reference week, status in employment, employment type (employees with leave entitlements, self-identified casuals, other employed persons, owner managers of incorporated enterprises, owner managers of unincorporated enterprises), and whether prefers more or fewer hours of work.
Labour Force Survey Employees	Sector (public/private), permanent or casual status, whether receives paid holiday leave, whether receives paid sick leave, whether receives long service leave, whether receives superannuation, whether a member of a trade union, and hours paid for in main job.
Employment type: employees with leave entitlements	Whether employment has a set completion date, whether on a fixed term contract, whether expects contract to be renewed (if on a contract), and whether paid by an employment agency.
Employment type: self-identified casuals	Whether employment has a set completion date, whether on a fixed term contract, whether expects contract to be renewed (if on a contract), whether looked for alternative employment in last three months, whether looked for permanent employment, and whether paid by an employment agency.

Employment type: other employed persons	Whether undertakes contract work, whether has more than one contract, whether able to subcontract own work, main reason unable to subcontract own work (if unable to do so), whether contract prevents working for multiple clients, whether has control over own working procedures, whether employment has a set completion date, whether on a fixed term contract, whether expects contract to be renewed (if on a contract), whether receives a payslip, and whether paid by an employment agency.
Employment type: owner managers	Whether has employees, whether undertakes contract work, whether has more than one contract, whether able to subcontract own work, main reason unable to subcontract own work (if unable to do so), whether contract prevents working for multiple clients, whether has control over own working procedures, level of dependence on client, whether draws a wage or salary and whether invoices or bills for own payment (only asked of owner managers of unincorporated enterprises).

21.3.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (employment characteristics), **Chapter 12** (weekly earnings), **Chapter 13** (trade union membership) and **Chapter 16** (socio-demographic information, industry and sector).

## SCOPE

21.3.7 The scope of this survey is restricted to persons aged 15 years and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## DATA COMPARABILITY OVER TIME

21.3.8 Since the Forms of Employment Survey has been conducted once only, there are no considerations of comparability over time for the data items specific to the survey. It should be noted however, that the employment type classification used to display data from the survey is fundamentally different to the Status in Employment classification which is used to display Labour Force Survey results. This issue is discussed in detail in **Chapter 4**.

## FURTHER INFORMATION

21.3.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

# Chapter 21. Labour Force Supplementary Surveys

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 15 December, 2005.**

## INTRODUCTION

21.0.1 A supplementary topic was included with the Labour Force Survey for the first time in November 1961, and this concept has been gradually extended so that now the majority of months in each year include supplementary questions on one or more topics.

21.0.2 Each Labour Force Supplementary Survey comprises a series of additional questions asked at the end of each Labour Force Survey interview. The survey methodology does not differ greatly among the supplementary surveys, and in many aspects is the same as the Labour Force Survey methodology (outlined in **Chapter 20**). Paragraphs 21.0.1 to 21.0.22 of Chapter 21 (below) describe the broad survey methodology of the supplementary surveys. They should be used in conjunction with Sections 1 to 16, which outline elements of the methodology which are unique to each supplementary survey.

## OBJECTIVES OF THE LABOUR FORCE SUPPLEMENTARY SURVEYS

21.0.3 The Labour Force Supplementary Surveys form an important component of the ABS's household surveys program, which aims:

- to provide a range of statistics required to monitor the social and economic wellbeing of Australians with particular reference to important sub-groups of the population; and
- to support the development, implementation and evaluation of policies and programs of key Commonwealth and State government agencies.

21.0.4 The information requirements of ABS household surveys are determined on the basis of submissions from users on their needs for and uses of household survey data. They also reflect ABS deliberations on what is required of a national statistics program in the various subject fields, based on user contact and consultation.

21.0.5 In the field of labour statistics, supplementary surveys provide detailed information on a range of labour topics and interest groups such as:

- labour force - labour force experience;
- employment - underemployment; multiple job holding; forms of employment; labour turnover; work-related injuries; and locations of work;

- employees - earnings; trade union membership; benefits; and working arrangements;
- unemployment - job search experience; successful and unsuccessful job search;
- persons not in the labour force - discouraged job seekers; other persons with marginal attachment to the labour force;
- retirement and retirement intentions; and
- persons retrenched or made redundant from work.

21.0.6 Many labour topics are covered on a regular basis, while others are only covered once or at irregular intervals to meet a specific need for information. Topics are usually run nationally. However, one month is set aside each year for State government proposed topics, specific to one or more States. The program also includes other social and economic topics not relating to labour statistics, such as the environment, crime and safety, and child care.

## SURVEY OUTPUT

21.0.7 Estimates from each supplementary survey are released in separate publications. More detailed estimates are available on request. Confidentialised Unit Record Files are sometimes also produced.

### SCOPE

21.0.8 In addition to those already excluded from the Labour Force Survey, the following persons are excluded from most supplementary surveys (see paragraphs **18.2 to 18.4** of **Chapter 18** for further information):

- people living in private dwellings in very remote parts of Australia;
- institutionalised people; and
- boarding school pupils.

21.0.9 Depending on the topic or population of interest for which information is being collected, there may be further exclusions from scope. For example, some supplementary surveys exclude all persons living in special dwellings; others collect information only from a certain population or interest group (e.g. information on retirement is collected from persons aged 45 years or over).

## COLLECTION METHODOLOGY

21.0.10 The collection methodology for the supplementary surveys is generally the same as for the Labour Force Survey. Interviews are conducted at the same time as interviews for the Labour Force Survey. Most interviews (about 70%) are conducted by telephone, with the remainder conducted face-to-face.

21.0.11 Information about each household member in scope of the supplementary survey is generally collected from one adult using the ARA methodology.

21.0.12 Response rates for the supplementary surveys are slightly lower than for the Labour Force Survey, and average around 93%.

## SAMPLE DESIGN

21.0.13 The supplementary surveys use the same sample design as the Labour Force Survey, and the sample used in the supplementary surveys is a subset of the Labour Force Survey sample. Persons in the outgoing rotation group in the Labour Force Survey are excluded from all supplementary surveys.

21.0.14 The sample size for the supplementary surveys varies. In addition to the scope exclusions listed above, there may be further restrictions to the supplementary survey sample for particular topics.

## ESTIMATION METHODS

21.0.15 Post-stratification estimation techniques are generally used, with adjustment to account for persons enumerated outside their State of usual residence.

21.0.16 Supplementary survey weights use labour force estimates, referred to in this context as pseudo-benchmarks, to supplement independent demographic benchmarks (see **Chapter 18** for further information on population benchmarks used in household surveys). Supplementary surveys may also incorporate other auxiliary information on target populations - for instance benchmarks for the Indigenous population, or the private dwelling population - into estimates.

21.0.17 The post-stratification variables generally used are:

- State/Territory of usual residence;
- part of State of usual residence (capital city, rest of State);
- labour force status;
- sex; and
- age (age groupings generally correspond with those used in post-stratification for the Labour Force Survey).

## TIME SERIES ESTIMATES

21.0.18 Seasonally adjusted and trend estimates are not produced for supplementary surveys.

## RELIABILITY OF THE ESTIMATES

21.0.19 Estimates from supplementary surveys are subject to both sampling and non-sampling error (see **Chapter 17** for more detail). The relative standard errors of survey estimates are published in each supplementary survey publication.

21.0.20 A 'split-halves' variance estimator, with a Taylor series adjustment for the post-stratified estimate, is used to calculate estimates of variance (see **Chapter 17** ) for more detail).

## DATA COMPARABILITY OVER TIME

21.0.21 Estimates from successive supplementary surveys on a given topic may not be strictly comparable over time due to changes in survey scope and concepts measured. In addition, changes affecting the Labour Force Survey sample and estimation processes will affect supplementary survey estimates. For further discussion of changes to a particular labour topic see Sections 1 to 16 of this chapter.

## FURTHER INFORMATION

21.0.22 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

This section contains the following subsection :

- 21.1 Career Experience
- 21.2. Employee Earnings, Benefits and Trade Union Membership
- 21.3. Forms of Employment
- 21.4. Job Search Experience of Unemployed Persons
- 21.5. Labour Force Experience
- 21.6. Labour Force Status and Other Characteristics of Migrants
- 21.7. Labour Mobility
- 21.8. Locations of Work
- 21.9. Multiple Job Holders
- 21.10. Persons Not In the Labour Force
- 21.11. Retirement and Retirement Intentions
- 21.12. Retrenchment and Redundancy
- 21.13. Successful and Unsuccessful Job Search Experience
- 21.14. Underemployed Workers
- 21.15. Work Related Injuries
- 21.16. Working Arrangements
- 21.17 Job Search Experience

[Previous Page](#)

[Next Page](#)

## Chapter 3. Employment

[Contents >> Concepts and Sources >> Chapter 3. Employment](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.**

## INTRODUCTION

3.1 The labour force framework discussed in **Chapter 2** categorises the population into three mutually exclusive groups: employed; unemployed; and not in the labour force. This chapter discusses the concept of employment, and contrasts estimates of employment produced from the Labour Force Survey with those collected in other labour statistics series. The concepts of unemployment and not in the labour force are discussed in subsequent chapters.

## CONCEPTS AND INTERNATIONAL GUIDELINES

3.2 The international concept of employment (Thirteenth ICLS 1982) is based on the principle that a person must have been engaged in some economic activity (work) over a short reference period. The concept of economic activity, discussed in **Chapter 2** , is linked to the concept of production as defined by the SNA. Any activity falling within the SNA production boundary is considered as work for the purposes of measuring employment. Employment is defined broadly in the international guidelines as all persons engaged in one or more hours of work during the reference period, as well as some persons temporarily absent from work.

3.3 According to the international concepts, employed persons comprise those above the age specified for measuring the economically active population, in **paid employment** or **self-employment**, during a specified reference period. **Paid employment** includes persons who performed some work for wages or salary, in cash or in kind, and persons temporarily absent from a paid employment job but who retained a formal attachment to that job. **Self-employment** includes persons who performed some work for profit or family gain, in cash or in kind, and those with an enterprise but temporarily not at work during the specified reference period for some specific reason.

3.4 The notion of 'some work' is interpreted as work for at least one hour. This approach ensures consistency between measures of employment and measures of production of goods and services, as all work (however little) contributing to national production is included in

measures of employment.

3.5 The international definition of employment specifies criteria for determining 'temporary absence from work'. Different criteria are used for absences from paid employment and self-employment. Persons absent from paid employment are considered employed provided they retain formal attachment to a job or business. Formal attachment occurs when one or more of the following criteria are met:

- the continued receipt of wage or salary during the absence from work;
- an assurance of a return to work following the end of the absence from work, or an agreement as to the date of return (or at least a reasonable expectation of a return to work); and
- a short duration of absence from the job (which, wherever relevant, may be the duration for which workers can receive compensation benefits without obligation to accept other jobs).

3.6 The notion of formal attachment applies only in respect of absences from jobs involving paid employment. Persons in self-employment who are 'with an enterprise but not at work' (i.e. temporarily absent from work for some specific reason) are considered employed. The international standards do not set out formal criteria for temporary absence from self-employment because of the diverse working patterns of the self-employed. However, guidelines for the self-employed recognise that the continued existence of the enterprise and an acceptable duration of absence (indicated, for example, by the reason for absence) may be sufficient. The treatment of absent contributing family workers in the guidelines is consistent with this view; as they are not considered to have an enterprise of their own, they cannot be 'with an enterprise but not at work', and should not be included among the employed.

## DEFINITIONS USED IN ABS SURVEYS

3.7 The ABS produces estimates of employment from both household and business surveys. The definitions of employment used in household surveys are designed to be consistent with the international standards. The definition of employment used in business surveys relates more closely to paid employment.

## DEFINITIONS USED IN ABS HOUSEHOLD SURVEYS

3.8 Three different definitions of employment are used in ABS household surveys. The Labour Force Survey is designed to produce precise estimates of employment (and unemployment), and the definition used aligns closely with international standards and guidelines. In other household surveys where employment is an explanatory variable or classificatory variable, it is generally not practical to determine employment as precisely as in the Labour Force Survey. While estimates of employment produced from these surveys are designed to be consistent with the international concept of employment, the definition used is slightly broader than that used in the Labour Force Survey. Two alternative questionnaire modules are used to produce estimates of employment in these surveys - a reduced questionnaire module (for use in personal interviews), and a self-enumerated questionnaire module.

### Labour Force Survey

3.9 The definition of employment used in the Labour Force Survey aligns closely with the concepts and international definitions outlined above. Employed persons are defined as all persons 15 years of age and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week; or
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or
  - away from work as a standard work or shift arrangement; or
  - on strike or locked out; or
  - on workers' compensation and expected to be returning to their job; or
- were employers or own-account workers, who had a job, business or farm, but were not at work.

3.10 For employees absent from work, a condition of formal job attachment is considered to exist in any of the following circumstances:

- short periods of absence (less than four weeks to the end of the reference week);
- long periods of absence (four weeks or more to the end of the reference week) **and** receipt of wages or salary for some or all of the four week period to the end of the reference week, such as persons on paid leave;
- any period of absence **and** away from work as a standard work or shift arrangement;
- any period of absence **and** on strike or locked out;
- any period of absence **and** continued receipt of workers' compensation payments **and** expected to return to work for the current employer.

3.11 As previously discussed, the international definition of employment recommends the use of certain criteria for determining formal job attachment when dealing with absences from paid employment in the reference week. All three criteria are used in the Labour Force Survey:

- short periods of absence are consistent with the third criterion specified in the international definition: a short duration of absence from the job (which, wherever relevant, may be the duration for which workers can receive compensation benefits without obligation to accept other jobs) - that is, the duration of absence should be short to be considered temporary (note that the international definition does not make recommendations on the duration of temporary absences);
- the receipt of pay, during long periods of absence, or as workers' compensation, is consistent with the first criterion specified in the

international definition, continued receipt of wage or salary during the absence from work;

- assurance of a return to work following the end of an absence from work, or an agreement as to the date of return (or at least a reasonable expectation of a return to work), is tested in the case of absence on workers' compensation. However, for employees away from work as a standard work or shift arrangement, and for employees on strike or locked out, it is assumed that an assurance of a return to work or an agreement as to the date of return exists.

3.12 Of the self-employed, employers and own account workers absent from work during the reference week are defined as employed without further testing of 'formal job attachment'. Contributing family workers who are absent from work in the reference week are not considered to be employed. This is consistent with the international guidelines discussed above.

### Other ABS household surveys

3.13 Most other ABS household surveys use one of the two alternative questionnaire modules (the reduced questionnaire module used for personal interviews, or the self-enumerated questionnaire module) to produce employment estimates. As discussed above, employment is more broadly defined in these modules than in the Labour Force Survey:

- most Special Social Surveys use the reduced questionnaire module for personal interviews. Employment in this module is defined as all (in scope) persons who worked for one hour or more during the reference week for pay, profit, commission, or payment-in-kind, or without pay in a family business; or who had a job but were not at work; and
- the Census of Population and Housing uses the self-enumerated questionnaire module. Employment in this module is defined as all persons aged 15 years and over who, during the reference week, worked for payment or profit or as unpaid workers in a family business, or who had a job from which they were on leave or otherwise temporarily absent.

3.14 Estimates of employment produced from the reduced questionnaire module for personal interviews are slightly higher (around 0.1%) than those produced from the Labour Force Survey. This results from differences in the treatment of persons temporarily away from work. In the reduced questionnaire module all persons away from work are classified as employed. In comparison, the Labour Force Survey classifies persons away from work as employed if:

- they are in paid employment and have formal job attachment; or
- they are employers or own account workers.

3.15 The self-enumerated questionnaire module also produces different estimates of employment from the Labour Force Survey. Some differences result from the shortened set of questions, which cannot determine employment as precisely as the Labour Force Survey (as the latter uses a longer set of questions to determine whether persons are employed). The self-enumeration nature of the questions also causes some differences, due to differences in interpretation among respondents. As a result, employment estimates from the self-enumerated questionnaire module are best used as explanatory or classificatory variables to explain other phenomena, rather than for detailed analysis of the labour force itself.

### DEFINITION OF EMPLOYMENT USED IN ABS BUSINESS SURVEYS

3.16 Concepts of employment used in ABS business surveys are narrower than the concept used in ABS household surveys. While estimates of employment from household surveys are of **persons engaged in economic activity**, estimates from business surveys are of **jobs involving paid employment**. There are two important distinctions between these estimates: the first relates to the statistical unit being measured, i.e. **persons** versus **jobs**; and the second to the concept being measured, i.e. **(total) employment** versus **paid employment**. These are discussed further below.

3.17 First, estimates of employment from business surveys refer to **jobs** rather than **persons**. For example persons holding jobs with different employers would be counted in ABS household surveys as employed once, but in ABS business surveys would be counted once for each job held.

3.18 Second, estimates of employment from business surveys mainly relate to **paid employment**. Paid employment is a component of total employment; when combined with self-employment, it would provide a concept of employment that is consistent with the international concepts. However, the coverage of paid employment applied in ABS business surveys is narrower than that outlined in the international guidelines. It excludes:

- jobs involving paid employment that do not appear on business payrolls (from which information on employment is sourced within businesses), such as jobs that are paid in kind only, and jobs from which occupants are absent without pay (for a lengthy period);
- jobs involving paid employment in businesses that have limited coverage on the ABS Business Register (from which the samples for most ABS business surveys are drawn), such as private households engaging staff; and
- jobs involving paid employment in businesses in the Agriculture, forestry and fishing industries; a relatively small proportion of these businesses have employees, thereby making surveying impractical.

3.19 Some industry and economy-wide ABS business surveys, however, do include a component of self-employment as well as paid employment in their surveys. For example, working proprietors and partners are included in the Economic Activity Survey.

3.20 Estimates of the number of paid employment jobs (also referred to as employee jobs) from ABS business surveys are most commonly compared to estimates of the number of persons in paid employment jobs (also referred to as employees) from ABS household surveys. However, estimates of employees from household surveys are not equivalent to estimates of employee jobs from business surveys and, when comparing estimates, the differences outlined above should be considered. Conceptual and methodological reasons for differences between estimates of employees from the Labour Force Survey and estimates of employee jobs from the Survey of Employment and Earnings (a business survey) are discussed in the **ABS Information Paper: Comparison of Employment Estimates from the Labour Force Survey and the Survey of Employment and Earnings** (cat. no. 6263.0).

## DATA SOURCES

3.21 Estimates of employment are available from the following ABS household surveys:

- the Labour Force Survey;
- the Census of Population and Housing; and
- Special Social Surveys.

3.22 Estimates of employee jobs are produced from the following ABS business surveys:

- the Survey of Employment and Earnings;
- the Economic Activity Survey; and
- from time to time, business surveys targeted to particular industries or sectors.

## LABOUR FORCE SURVEY

3.23 The monthly Labour Force Survey is the official source for Australian employment and unemployment statistics. The definition of employment used in the Labour Force Survey is outlined above. The survey uses a comprehensive and detailed set of questions to precisely measure the numbers and certain characteristics of persons in employment and unemployment as well as persons not currently economically active. Estimates from the Labour Force Survey are available by State/Territory, capital city/rest of State, and 67 sub-State regions (see **Chapter 16** for more information on geographic classifications available from ABS household surveys). For more detail on the content and methodology of the Labour Force Survey see **Chapter 20**.

## CENSUS OF POPULATION AND HOUSING

3.24 As discussed above (paragraphs 3.13-3.15), the Census of Population and Housing uses the self-enumerated questionnaire module to produce employment estimates consistent with the international standards. However, because the self-enumerated questionnaire module defines employment less precisely than the Labour Force Survey, estimates produced are not strictly comparable with those from the Labour Force Survey. For these reasons, employment estimates from the Census should be used with caution in analyses where labour force activities are a major focus. When comparing estimates of employment from the Census of Population and Housing with those produced from the Labour Force Survey, users should also note differences between the two surveys in scope (for example, the inclusion of permanent defence forces in Census employment data) and methodology. Employment estimates from the Census are available down to the statistical local area level (**footnote 1**). Refer to **Chapter 19** for further information on the Census of Population and Housing.

## SPECIAL SOCIAL SURVEYS

3.25 As discussed above (paragraphs 3.13-3.15), most Special Social Surveys use the reduced questionnaire module for personal interviews to produce employment estimates that are consistent with the international standards. However, because the reduced questionnaire module defines employment less precisely than the Labour Force Survey, estimates produced are not strictly comparable with those produced from the Labour Force Survey. When comparing employment estimates from Special Social Surveys with estimates from the Labour Force Survey, users should also note differences in scope and methodologies across the surveys.

3.26 The labour-related Special Social Surveys - the Survey of Employment Arrangements and Superannuation (**Chapter 23**) and the Survey of Employment and Unemployment Patterns (**Chapter 24**) - both produced estimates of employment. Unlike most Special Social Surveys, neither of these surveys used the reduced questionnaire module to produce measures of employment as described above. Instead, both surveys used questions asked in the Labour Force Survey. However, the questions used in the Survey of Employment Arrangements and Superannuation were modified slightly from those used in the Labour Force Survey and collected information about two jobs where appropriate. For more information on these surveys, refer to the chapters listed above.

## SURVEY OF EMPLOYMENT AND EARNINGS

3.27 The Survey of Employment and Earnings is a business survey producing estimates of employee jobs. There are conceptual reasons (as discussed in paragraphs 3.16-3.20) as well as methodological reasons for differences in estimates of employment produced from business and household surveys. For further information on the scope and collection methodology of this survey refer to **Chapter 31**.

## ECONOMIC ACTIVITY SURVEY

3.28 The Economic Activity Survey is a business survey producing employment estimates. There are conceptual as well as methodological reasons for differences in estimates of employment produced from business and household surveys. For further information on the scope and collection methodology of this survey refer to **Chapter 33**.

## FURTHER INFORMATION

3.29 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. Statistical local areas (SLAs) consist of one or more Census collection districts. In aggregate, SLAs cover the whole of Australia without gaps or overlaps. An SLA consists of a single local government area, or part thereof, or any unincorporated area. For further information refer to **Chapter 16 <back**

## 21.4. Job Search Experience of Unemployed Persons

Contents >> Methods >> Household Collections >> Chapter 21. Labour Force Supplementary Surveys >> 21.4. Job Search Experience of Unemployed Persons

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 26 August, 2004.

### INTRODUCTION

21.4.1 This survey examined the job search experience of unemployed persons, with particular focus on two key aspects - steps taken to find work, and barriers encountered in finding work. First conducted in 1976, the survey was conducted annually in July until 2001. From July 2002, the survey was combined with the biennial survey of Successful and Unsuccessful Job Search Experience, conducted irregularly from 1982 to 2001 (see **Chapter 21.13**), forming the annual survey of Job Search Experience (see **Chapter 21.17**). Data from the survey were used in formulating policies in areas such as labour market assistance, and control and review mechanisms for unemployment benefit payments.

21.4.2 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

21.4.3 Data from the survey were published in **Job Search Experience of Unemployed Persons, Australia** (cat. no. 6222.0). More detailed data are available on request.

21.4.4 The main population of interest was unemployed persons. Estimates included:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, educational attainment, birthplace and year of arrival in Australia.
Unemployed persons	Whether looking for full-time or part-time work, duration of current period of unemployment, active steps taken to find work, whether would move interstate if offered a suitable job, whether would move intrastate if offered a suitable job, number of offers of employment in past 12 months, difficulties finding work, number of spells of finding work in previous 12 months, and time spent looking for work in previous 12 months.
Unemployed persons who were employees in their full-time last job and ceased that job in the last two years	Duration of last full-time job, industry of last full-time job, occupation of last full-time job, and reason for ceasing last full-time job.

21.4.5 Data collected in the survey were compiled according to concepts and definitions outlined in **Chapter 6** (unemployment) and **Chapter 16** (socio-demographic information and industry).

### SCOPE

21.4.6 The scope of this survey was restricted to persons aged 15 and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also applied to this survey.

### COLLECTION METHODOLOGY

21.4.7 Personal interviews were used to collect information for the survey. Both face to face and telephone interviewing techniques were used.

### DATA COMPARABILITY OVER TIME

21.4.8 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey was conducted there were some changes to the scope and sample size. These changes mean that the standard errors for the survey differed over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also have affected this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

1976	Initial two surveys conducted in May and November - preliminary data published in <b>Persons looking for work, Preliminary</b> (Ref. no. 6.56) and final data in <b>Persons looking for work</b> (Ref. no. 6.60).
1977	Survey conducted (May). Catalogue numbers replaced reference numbers - cat. no. 6221.0 (preliminary data) and cat. no. 6222.0 (final data).
1978	Annual collection commenced (July).
1981	Survey conducted in June (this year only).
1982	Publication title change - preliminary data published in <b>Characteristics of persons looking for work, Australia, Preliminary</b> (cat. no. 6221.0) and final data in <b>Characteristics of persons looking for work, Australia</b> (cat. no. 6222.0).
1984	Publication title change - preliminary data published in <b>Job Search Experience of Unemployed Persons, Australia, Preliminary</b> (cat. no. 6221.0) and final data in <b>Job Search Experience of Unemployed Persons, Australia</b> (cat. no. 6222.0).
1986	Survey conducted in June (this year only).
1988	Preliminary publication discontinued.
1991	Survey conducted in June (this year only).
1994	Reduction in sample to seven-eighths of Labour Force Survey sample.

<b>1995</b>	Standard Data Service replaced publication format (cat. no. changed to 6222.0.40.001).
<b>1996</b>	Publication format replaced Standard Data Service (cat. no. changed to 6222.0).
<b>1997</b>	Persons living in remote and sparsely settled areas excluded from scope.
<b>1998</b>	Change to government administration of job seeking arrangements. The former CES was split, some responsibilities being moved to Centrelink and the privatised Job Network created, causing a slight discontinuity in some estimates.
<b>2000</b>	Reduction in survey content (for this year only) - details of last full-time job not collected.
<b>2001</b>	Final survey. Replaced by Job Search Experience Survey from July 2002.

## FURTHER INFORMATION

21.4.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 28. Survey of Major Labour Costs

[Contents](#) >> [Methods](#) >> [Business Collections](#) >> [Chapter 28. Survey of Major Labour Costs](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 15 December, 2005.**

## INTRODUCTION

28.1 The Survey of Major Labour Costs has been conducted on an irregular basis since 1985-86 and was most recently conducted in respect of 2002-03. The survey produces statistics on the main costs incurred by businesses as a consequence of employing labour. Data from the survey are used by a wide range of users for labour market analysis. In particular, they are used by Governments for employment, prices and income policy development, for monitoring changes in the cost of labour, and for wage determination purposes.

## SURVEY OUTPUT

28.2 Estimates are published in **Labour Costs, Australia** (cat. no. 6348.0.55.001). More detailed estimates are available through data requests.

28.3 The population of interest is civilian employee jobs based in Australia, for which payments in relation to certain labour costs were made during the survey reference period (i.e the financial year ending 30 June). A number of series are compiled from the survey based on various components of employer labour costs:

- employee earnings;
- superannuation;
- payroll tax;
- workers' compensation; and
- fringe benefits tax.

28.4 Costs are measured on a cash accounting basis, net of any reimbursements, subsidies or rebates.

28.5 Data can be classified by State or Territory, sector (public/private), level of government, public institutional sector, industry and employer size. The following units of measure are available: total costs; costs per employee; and costs as a proportion of total labour costs.

28.6 Data from the survey are available on an original basis only.

28.7 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 12**. All labour costs are collected on a cash basis i.e. they reflect actual payments made in the survey reference period. As such they do not reflect costs incurred in the reference period for which payments are made in a later period, but they include payments made in the survey reference period for costs incurred in a prior period.

28.8 Earnings estimates from the survey are broader than, and thus not directly comparable with, earnings estimates from the Survey of Average Weekly Earnings (AWE), and the Survey of Employee Earnings and Hours (EEH). For more details on the earnings definition in MLC, see **Chapter 12**.

28.9 A number of other labour costs are not covered by this survey. These include training costs, costs associated with employee welfare services, and recruitment costs. With the exception of training costs, these items are not considered to make a significant contribution to total labour costs. Training costs were collected in the Training Expenditure and Practices Survey, conducted for the financial year 2001-02, and in the earlier Training Expenditure Survey conducted for September quarters of 1989, 1990, 1993 and 1996. Costs covered in these surveys are for structured training provided by employers. For information see **Employer Training Expenditure and Practices, Australia** (cat. no. 6362.0).

## SCOPE

28.10 The scope of the survey is restricted to employing organisations in Australia. The standard scope exclusions for ABS labour-related business surveys (outlined in **Chapter 25**) apply to this survey.

## SURVEY METHODOLOGY

28.11 Detailed information is obtained about labour costs from selected employers using a mail-out/mail-back collection methodology.

28.12 The survey reference period is the financial year ended 30 June.

28.14 Respondents who do not mail back their completed questionnaire within a reasonable period of time after the survey reference date are followed up by mail and then telephoned if necessary. The response rate for the 2002-03 survey was 93%.

## SAMPLE DESIGN

28.15 The sampling unit for the survey comprises all the activities of an employer in a particular state or territory based on the Australian Business Number (ABN) unit or Type of Activity Unit (TAU). The collection and reporting units used in the survey usually correspond to the sampling unit. However, where the ABN/TAU unit is unable to provide information required for the survey, it may be split into a number of 'reporting units'. For further information on statistical units used in ABS business surveys refer to **Chapter 25**.

28.16 A probability sample of employing businesses (ABN/TAU units) is drawn from the ABS Business Register using the process outlined in **Chapter 25**. Variables used to stratify the survey frame are:

- state or territory;
- sector - the public and private sectors are stratified separately;
- industry - industry stratification is based on ANZSIC division; and
- employment size - the ranges used vary between states and territories, sectors and industries.

28.17 A Workers' Compensation Insurer type identifier was unavailable for inclusion in the initial stratification, but the sample was effectively post stratified for this classification (re-weighting for workers' compensation data items only) during output processing.

28.18 Strata on the survey frame that are completely enumerated include those containing selection units with benchmark employment greater than a set cut-off (this cut-off will vary for different states/territories) and strata with a very small number of selection units in the population.

28.19 In addition to constraints outlined in **Chapter 25**, sample selection is constrained by ensuring there is minimum overlap with other labour-related business surveys.

## SAMPLE SIZE AND ALLOCATION

28.20 For the 2002-03 survey, approximately 7,500 employer units were selected to ensure adequate industry and state/territory representation. Of these, approximately 5,600 units were in the private sector and 1,900 were in the public sector.

## SAMPLE RESELECTION

28.21 The ABS reselects the sample for the Survey of Major Labour Costs each time it is conducted. At the same time the overall design of the sample is examined to ensure that it remains efficient and cost-effective.

## ESTIMATION

28.22 Both ratio estimation and number-raised estimation (for some strata) are used.

28.22 Survey outliers are handled by using the 'surprise outlier' technique.

28.23 Aggregate Ratio imputation is applied to all non-responding units that are not identified as being defunct. The unit is imputed by applying the aggregate ratio of each item to benchmark from respondent units of a similar type (e.g state, industry, size, not-for-profit status, workers' compensation arrangement) as relevant to each item.

28.24 Partial clerical imputation is carried out for units that can only provide part data. The missing item(s) is imputed using the relationship between that item and a relevant provided item as per responding units of similar type. Where relevant and available, employment and earnings data obtained from the SEE or AWE survey are used to assist clerical imputation.

28.25 Adjustments are made to survey estimates to account for births and deaths of businesses that have occurred up to the end of the survey reference period but which are not reflected on the survey frame.

28.26 For further information on estimation methods used in ABS Business Surveys, refer to **Chapter 25**.

## RELIABILITY OF THE ESTIMATES

28.27 Estimates from the survey are subject to both sampling and non-sampling error. The relative standard errors of survey estimates are published in **Labour Costs, Australia** (cat. no. 6348.0.55.001).

28.28 The 'jack-knife' approach is used to calculate estimates of variance for this survey. For further information on variance estimation techniques, or on sampling and non-sampling error, refer to **Chapter 17**.

## DATA COMPARABILITY OVER TIME

28.29 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, and frequency of collection, are made as infrequently as possible. Significant changes have included:

<b>1983-84</b>	Annual survey commenced for this reference year.
<b>1991-92</b>	Last year for which survey was conducted on an annual basis.

<b>1993-94</b>	Survey conducted for this reference year. Survey redesigned on an ANZSIC industry basis. Collection methodology for superannuation coverage and collection of fringe benefits/fringe benefits tax improved.
<b>1996-97</b>	Survey repeated with increased sample size. Collection form redesigned. Introduction of Live Respondent Mean imputation for the sampled sector. Jack-knife variance estimation system introduced. Change in reporting arrangements for superannuation by Commonwealth general government organisations. Introduction of Aggregate Ratio imputation for all units.
<b>2002-03</b>	Employer superannuation costs excluded superannuation contributions made under an employee's salary sacrifice arrangement. Earnings estimates included, for the first time, the value of salary sacrificed. Also, the derivation of earnings included the ungrossed value of fringe benefits, whereas the grossed up value of fringe benefits was used for this derivation in 1996-97. Introduction of Aggregate Ratio imputation for all units.

28.30 Although many estimates from previous collection cycles are on a consistent basis, care should be taken in using data from this survey as a time series. The survey is designed to give an accurate 'snapshot' of data rather than an ongoing series of observations over time. Hence the survey methodology and sample design are not specifically set up to provide time series data e.g. the sample is not set up to necessarily have the same businesses in it for more than one year. Also changes in definitions and treatments for data items can occur, as for the 2002-03 survey. The Explanatory Notes of the publication provides detail on such changes.

## FURTHER INFORMATION

28.31 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## List of Abbreviations

[Contents >> List of Abbreviations](#)

<b>ABN</b>	Australian Business Number
<b>ABR</b>	Australian Business Register
<b>ABS</b>	Australian Bureau of Statistics
<b>ABSCQ</b>	Australian Bureau of Statistics Classification of Qualifications
<b>AJS</b>	Australian Job Search
<b>ANZ</b>	Australia and New Zealand Banking Group
<b>ANZSIC</b>	Australian and New Zealand Standard Industrial Classification
<b>ARA</b>	Any Responsible Adult
<b>ASCCSS</b>	Australian Standard Classification of Countries for Social Statistics
<b>ASCED</b>	Australian Standard Classification of Education
<b>ASCO</b>	Australian Standard Classification of Occupations
<b>ASGC</b>	Australian Standard Geographic Classification
<b>ASIC</b>	Australian Standard Industrial Classification
<b>ATO</b>	Australian Taxation Office
<b>ATSI</b>	Aboriginal and Torres Strait Islander
<b>AWE</b>	Survey of Average Weekly Earnings
<b>AWOTE</b>	Average Weekly Ordinary Time Earnings
<b>CCLI</b>	Classification and Classified List of Industries
<b>CCLO</b>	Classification and Classified List of Occupations
<b>CD</b>	Census Collection District
<b>CE</b>	completely enumerated
<b>CES</b>	Commonwealth Employment Service
<b>CI</b>	confidence interval
<b>CURF</b>	Confidentialised Unit Record File
<b>DEETYA</b>	Department of Employment, Education, Training and Youth Affairs
<b>DEWR</b>	Department of Employment and Workplace Relations
<b>DSS</b>	Department of Social Security
<b>EAS</b>	Economic Activity Survey
<b>EEH</b>	Survey of Employee Earnings and Hours
<b>GST</b>	Goods and Services Tax
<b>ICLS</b>	International Conference of Labour Statisticians
<b>ICSE</b>	International Classification of Status in Employment
<b>ICT</b>	Information and Communications Technology
<b>ILO</b>	International Labour Organisation
<b>IRC</b>	Industrial Relations Commission
<b>ISIC</b>	International Standard Industrial Classification of All Economic Activities
<b>LGA</b>	Local Government Area
<b>LPI</b>	Labour Price Index
<b>MPHS</b>	Multi Purpose Household Survey
<b>MSR</b>	Major Statistical Region
<b>MU</b>	Management Unit
<b>MUS</b>	Management Unit/State
<b>NDS</b>	National Data Set for Compensation-based Statistics
<b>NOHSC</b>	National Occupational Health and Safety Commission
<b>PAYE</b>	Pay As You Earn
<b>PAYG</b>	Pay As You Go
<b>PNILF</b>	Persons Not in the Labour Force
<b>PSU</b>	Primary Sampling Unit
<b>RADL</b>	Remote Access Data Laboratory
<b>RSE</b>	relative standard error
<b>S Dist</b>	Statistical District
<b>S/T</b>	State/Territory

<b>SACC</b>	Standard Australian Classification of Countries
<b>SD</b>	Statistical Division
<b>SE</b>	standard error
<b>SEAS</b>	Survey of Employment Arrangements and Superannuation
<b>SEE</b>	Survey of Employment and Earnings
<b>SEIFA</b>	Socio-Economic Indexes for Areas
<b>SESCA</b>	Standard Economic Sector Classifications of Australia
<b>SISCA</b>	Standard Institutional Sector Classification of Australia
<b>SLA</b>	Statistical Local Area
<b>SNA</b>	System of National Accounts
<b>SOS</b>	Section of State
<b>SR</b>	Statistical Region
<b>SRS</b>	Statistical Region Sector
<b>SSD</b>	Statistical Subdivision
<b>TAU</b>	Type of Activity Unit
<b>UC/L</b>	Urban Centre/Locality
<b>WPI</b>	Wage Price Index

[Previous Page](#)

[Next Page](#)

## Chapter 29. Survey of Average Weekly Earnings

[Contents](#) >> [Methods](#) >> [Business Collections](#) >> [Chapter 29. Survey of Average Weekly Earnings](#)

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### INTRODUCTION

29.1 The Survey of Average Weekly Earnings has been conducted quarterly since 1981. The purpose of the survey is to measure average gross weekly earnings associated with employee jobs in Australia. Estimates of average weekly earnings, and changes in average weekly earnings, are produced each quarter. Estimates are used in commercial contracts, and in Commonwealth, State and Territory legislation. The quarterly measure of change in average earnings levels is often used as an indicator of change in underlying wage rates, for economic policy analysis. However, the ABS considers its Wage Cost Index to be the preferred indicator of changes in wage rates.

### SURVEY OUTPUT

29.2 Data are published quarterly, in **Average Weekly Earnings, Australia** (cat. no. 6302.0). More detailed data are available on request. Up until the December quarter 2000, preliminary results were released three weeks earlier in **Average Weekly Earnings, Australia, Preliminary** (cat. no. 6301.0).

29.3 The population of interest is civilian employee jobs, for which payments were made in the survey reference period, excluding employee jobs based outside Australia. Three main series are published:

- Average weekly total earnings for full-time adult employee jobs (comprising ordinary time earnings plus overtime - refer to **Chapter 12** for further information on ordinary time, overtime and other components of earnings).
- Average weekly total earnings for all employee jobs.
- Average weekly ordinary time earnings for full-time adult employee jobs (commonly referred to as AWOTE).

29.4 Estimates of the percentage change in average earnings (from both the previous quarter and from the corresponding quarter of the previous year) are published for each series. Estimates from the survey are cross-classified by sex, State/Territory, industry and sector.

29.5 Estimates are published on the following bases: original; seasonally adjusted; and trend (see **Chapter 17** for further explanation of original, seasonally adjusted and trend estimates). Seasonally adjusted and trend estimates are available by Australia and State/Territory for each of the three main series listed above.

29.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (employees) and **Chapter 12** (earnings).

### SCOPE

29.7 The scope of the survey is restricted to employing businesses (MUSs). In addition, the standard scope exclusions for ABS labour-related business surveys (outlined in **Chapter 25**) apply to this survey.

### SURVEY METHODOLOGY

29.8 Details of numbers of employees (full-time adults and other employees), total gross weekly earnings (for full-time adults and other employees), and weekly overtime earnings of full-time adults are obtained on a quarterly basis from selected businesses, using a mail-out/mail-back collection methodology. Data for some Commonwealth and Territory Government organisations are collected electronically on a fortnightly basis from a centralised pay system. A small number of large private businesses also provide data electronically.

29.9 The survey reference period is the last pay period ending on or before the third Friday in the middle month of the quarter. Businesses are asked to estimate one week's proportion of total gross earnings and full-time adult overtime earnings if their payroll is not weekly.

29.10 Businesses which do not mail back their completed questionnaire within a reasonable period of time after the survey reference period are followed up by mail and then phone if necessary. Final response rates for the Survey of Average Weekly Earnings over the 1998-99 financial year averaged 98%.

## SAMPLE DESIGN

29.11 The selection unit for the survey is the Management Unit/State (MUS). The collection and reporting units used in the survey usually correspond to the selection unit. However, where the MUS is unable to provide information required for the survey, it may be split into a number of 'reporting units'. For further information on statistical units used in ABS business surveys refer to **Chapter 25**.

29.12 A probability sample of MUSs (employing businesses) is drawn from the ABS Business Register using the process outlined in **Chapter 25**. Variables used to stratify the survey frame each quarter are:

- State or Territory;
- sector - the public and private sectors are stratified separately;
- industry - within the private sector, industry stratification is based on ANZSIC division; within the public sector ANZSIC divisions are aggregated to form three broad industry groupings; and
- employment size - the ranges used vary between States and Territories, sectors and industries.

26.13 Strata on the survey frame that are completely enumerated include those containing MUSs with benchmark employment greater than a set cutoff (this cutoff will vary for different States/Territories) and strata with a very small number of MUSs. Strata which are completely enumerated because they contain a low number of MUSs may become sampled strata if the number of MUSs in those strata increases sufficiently.

29.14 In addition to constraints outlined in **Chapter 25**, sample selection is constrained by the need to ensure that there is minimum overlap with other labour-related business surveys and with non-labour related business surveys.

## SAMPLE SIZE AND ALLOCATION

29.15 Approximately 4,700 MUSs are selected in the sample to yield a live sample of approximately 4,000 MUSs.

29.16 The sample is allocated optimally across sampled strata using a technique designed to minimise the variance of average weekly earnings estimates at both the national and State/Territory level.

## SAMPLE ROTATION

29.17 The sample is updated each quarter to reflect changes in the ABS Business Register. Approximately 8% of the sample selected from the non-completely enumerated strata is replaced each quarter. This process is called sample rotation (see **Chapter 25** for further explanation).

29.18 Sample rotation is implemented for the majority of sampled strata, but is not implemented where the population of a stratum is so small that units rotating out of the sample would be rotated back in after only a short interval.

## ESTIMATION

29.19 Estimates of total weekly earnings and number of employee jobs are computed for various combinations of State/Territory, sector and industry. Average weekly earnings measures are the quotient of the respective earnings and employment measures. Ratio estimation is used in all sampled strata, except in cases where there is a large proportion of units with zero benchmark employment, in which case number-raised estimation is used.

29.20 In both completely enumerated and sampled strata an automatic imputation procedure is used for units not responding, by applying imputed growth rates to the most recently reported employment and earnings data for these units, provided that data have been reported in either of the two previous quarters. This is referred to as Beta imputation. Otherwise, the Live Respondent Mean method is used to impute for missing data items.

29.21 Significance editing was introduced in September 1992. This technique means that editing is only performed on those survey values which will significantly impact on the survey estimate if left unaltered.

29.22 Survey outliers are handled by using the 'surprise outlier' technique.

29.23 New Business Provisions were introduced in May 1999. Adjustments are made to survey estimates each quarter to allow for births and deaths of businesses that have occurred up to the end of the survey reference period but which are not reflected on the survey frame.

29.24 For further information on estimation methods used in ABS Business Surveys, refer to **Chapter 25**

## TIME SERIES ESTIMATES

29.25 Both seasonally adjusted and trend estimates are produced for key series from this survey.

### Seasonal adjustment

29.26 Seasonally adjusted estimates were introduced from September quarter 1983. The seasonal factors are reviewed annually to take account of each additional year's original data. The review takes place in time for the results to be incorporated in each February issue of **Average Weekly Earnings, Australia** (cat. no. 6302.0).

## Trend estimates

29.27 Trend estimates were introduced from August quarter 1993.

## RELIABILITY OF THE ESTIMATES

29.28 Estimates from the survey are subject to both sampling and non-sampling error. The relative standard errors of survey estimates are published in **Average Weekly Earnings, Australia** (cat. no. 6302.0).

29.29 The 'jack-knife' approach is used to calculate estimates of variance for this survey. For further information on the jack-knife technique for estimating variances, or on sampling and non-sampling errors, refer to **Chapter 17**.

## DATA COMPARABILITY OVER TIME

29.30 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and methods of time series analysis, are made as infrequently as possible. Significant changes have included:

<b>1941</b>	Average weekly earnings series commenced, based principally on information from payroll tax returns.
<b>1981</b>	Sample survey of businesses introduced using the ABS Business Register.
<b>1983</b>	Survey sample increased, with selection from an upgraded ABS Business Register. Some changes to survey definitions. Seasonally adjusted estimates introduced.
<b>1992</b>	First data collected electronically from selected survey respondents; introduction of significance editing.
<b>1993</b>	Trend estimates introduced.
<b>1994</b>	Survey redesigned on an ANZSIC industry basis. Rotation rate for rotating sampled strata increased from 5% to 8.33%.
<b>1997</b>	Jack-knife variance estimation introduced. Number raised estimation introduced for strata with over 20% of units having zero benchmark employment.
<b>1999</b>	Introduction of Live Respondent Mean imputation for the sampled sector, and the new business provisions adjustment for the private sector.
<b>2000</b>	Introduction of Beta imputation for the sampled sector.
<b>2001</b>	Publication of preliminary estimates discontinued.

## FURTHER INFORMATION

29.31 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## 21.5. Labour Force Experience

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.5. Labour Force Experience](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 28 July, 2005.**

### LABOUR FORCE EXPERIENCE INTRODUCTION

21.5.1 The Labour Force Experience Survey collects a range of data about the labour force experiences of people aged 15-69 years over the 12 months prior to the survey date. It was first conducted in 1969, and has been conducted on a two-yearly basis since February 1995. It presents information about time spent in labour force activities, including episodes of work or looking for work, and time out of the labour force.

21.5.2 Estimates from the survey are used to monitor the extent and nature of labour force participation over an extended period and to complement 'gross flows' estimates from the monthly Labour Force Survey (see **Chapter 20** for information on gross flows) in the analysis of labour market dynamics. The information is used to construct profiles of various groups within the labour force, particularly the unemployed.

21.5.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with **Chapter 21**, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

21.5.4 Data from the survey are published in **Labour Force Experience, Australia** (cat. no. 6206.0). More detailed data are available on request.

#### 21.5.5 Estimates include:

Socio-demographic information	Sex, age, marital status, relationship in household, state or territory of usual residence, country of birth and year of arrival in Australia.
All persons	Labour force status at survey date, time in the labour force during the year, time worked during the year (including time spent working full-time and part-time), time spent looking for work during the year, number of spells of looking for work during the year, whether had an unpaid absence from work during the year, number of employers/businesses during the year, time not in the labour force during the year and main activity when not in the labour force.
Persons who were employed at survey date	Status in employment, occupation, industry, full-time or part-time status and time worked with current employer/business.

21.5.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 2** (currently economically active population - labour force status at survey date), **Chapter 4** (employment characteristics), **Chapter 9** (usually economically active population - time in the labour force during the year, time worked and looked for work during the year) and **Chapter 16** (socio-demographic information and industry).

## SCOPE

21.5.7 The scope of this survey is restricted to people aged 15 to 69 years. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## DATA COMPARABILITY OVER TIME

21.5.8 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

<b>1969</b>	Initial survey conducted (February) - preliminary data in <b>Labour Force Experience, Preliminary</b> (Ref. no 6.38) and final data in <b>Labour Force Experience</b> (Ref. no 6.26). Survey reference period - preceding calendar year. Sample size restricted to three-quarters of the Labour Force Survey sample.
<b>1973</b>	Survey conducted (February).
<b>1975</b>	Annual collection commenced (February).
<b>1978</b>	Survey not conducted (this year only).
<b>1979</b>	Catalogue numbers replaced reference numbers - cat. no. 6205.0 (preliminary data) and cat. no. 6206.0 (final data).
<b>1981</b>	Change to survey reference period - beginning of February in previous year to the end of the reference week.
<b>1982</b>	Change to the classification of some persons (this year only) - persons who reported that they had been in their current job for one year and also reported that they did not work for the entire reference period were <b>not</b> classified as 'not in the labour force' for the remainder of the period (as they were in other years).
<b>1983</b>	Change to survey reference period - 52 weeks to the end of the week prior to interview.
<b>1988</b>	Preliminary publication discontinued.
<b>1989</b>	Sample size reduced to one-half of the Labour Force Survey sample.
<b>1990</b>	Change to survey month (March). Persons aged 70 and over excluded from scope of the survey. Sample size increased to full Labour Force Survey sample.
<b>1995</b>	Annual collection ceased - replaced by biennial collection (February). Sample restricted to no more than seven-eighths of the Labour Force Survey sample. Standard Data Service replaced publication format (cat. no. changed to 6206.0.40.001).
<b>1997</b>	Publication format replaced Standard Data Service (cat. no. changed to 6206.0). Persons living in remote and sparsely settled areas excluded from scope.
<b>2005</b>	Data items related to educational attainment and state/territory of usual residence 12 months ago no longer available.

## FURTHER INFORMATION

21.5.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Appendix

[Contents >> Appendix](#)

### INTERNATIONAL GUIDELINES ON DISSEMINATION AND ABS PRACTICE

As statistics generally have assumed a more important role in the day to day activities of modern economies and societies, a number of international agencies including the International Monetary Fund and the ILO have put forward a range of proposals and guidelines for the dissemination of data; the methodology of its collection and compilation, and evaluation as to its accuracy; relevance to the phenomena measured; and quality of the output.

In particular, the ILO at its 1998 ICLS endorsed a set of 20 guidelines concerning dissemination practices for labour statistics. How these compare with current ABS release practices is outlined in the following section.

## 2.1 LABOUR STATISTICS DISSEMINATION - ICLS GUIDELINES AND ABS PRACTICE

ICLS GUIDELINES		ABS PRACTICE	
ACCESS			
1	<p>Ready access should be provided to data and metadata and they should be actively disseminated and publicised.</p> <p>Subject to national data protection restrictions, micro-data that protect the confidentiality of respondents should be made available - at least for research purposes.</p>	<p>The ABS public good policy (outlined above) ensures ready access to the data from its statistical collections. Unpublished data are also generally available on request.</p> <p>Metadata are disseminated alongside the data they relate to in explanatory notes, glossaries, commentary, and other material associated with each statistical collection.</p> <p>Micro-data, also referred to as unit record data, are available from a number of statistical collections. The release of unit record data is subject to strict release provisions to protect confidentiality. Unit record data are made available to a number of Australian universities for academic and teaching purposes.</p>	
2	<p>A variety of statistical products should be derived from each data set, using appropriate dissemination media in each case.</p>	<p>A wide range of products is used to disseminate ABS statistics including publications, information papers, articles and data reports. Information is available in printed and electronic form.</p>	
3	<p>The professionalism of statistical agency staff should encompass the skills and techniques needed to design tables and charts, to communicate information effectively to users; also presentational and media skills.</p>	<p>The ABS employs professional staff who are trained in a variety of disciplines, and possess the technical skills necessary to design, collect, process and disseminate information to users.</p>	
4	<p>The initial release of the main labour aggregates into the public domain should be free of charge; an explanation of any charging policies that are followed by the statistical agency for additional outputs should be publicly available.</p>	<p>Main labour aggregates are released into the public domain free of charge. Charging policies and practices for more detailed data are publicly available.</p>	
5	<p>The professional staff responsible for labour data should ensure their names and/or workplace telephone numbers are published with all statistical outputs; other forms of direct contact with users such as user groups and 'help lines' should be developed by the statistical agency.</p>	<p>Contact names and details of staff responsible for statistical collections are published with all outputs from those collections.</p> <p>The ABS provides a range of services to address users' general information needs including national statistical service, dial-a-statistic, library, Internet, and consultancy services.</p> <p>The ABS consults regularly with users to obtain feedback on directions for its statistical collections. In the field of labour statistics, an advisory group composed of key users of labour data has been formed as a forum to seek users' views on a range of labour statistics issues.</p>	
6	<p>Statistical agencies should regard the provision of data and metadata to international organisations as equivalent in importance to the supply of data to home customers; international organisations should adopt dissemination guidelines themselves.</p>	<p>The ABS makes data freely available to a number of international organisations.</p>	
INTEGRITY			
7	<p>The terms and conditions under which statistics are produced and released, including labour statistics, should be a matter of public record.</p>	<p>The terms and conditions under which statistics are produced are outlined in the Commonwealth Census and Statistics Act 1905 which describes the statistical information to be collected, the administration of statistical activities, obligations to answer questions, the publication of statistics, the release of other information, secrecy provisions, and the fines and penalties that can be imposed for the failure to comply with requests for information, or for the furnishing of false or misleading statements.</p>	
8	<p>Those agencies that have technical responsibility and prepare analytical commentary on the data should have responsibility for releasing data.</p>	<p>The ABS has responsibility for the collection, compilation, analyses and release of data.</p>	
9	<p>There should be prior announcement of the date of initial release of labour statistics including, where possible, the exact time. The earlier the advance notice the better, even if dates are issued initially on a provisional basis. When release deadlines are not met, the reason should be made publicly available.</p>	<p>Release dates are set in advance for ABS publications and other standard products.</p> <p>The release dates for main economic indicators are set and published 12 months in advance. The release date for the next publication is advised in each main economic indicator release. Labour-related main economic indicators include:</p> <ul style="list-style-type: none"><li>• Labour Force Survey (Preliminary);</li><li>• Wage Cost Index; and</li><li>• Job Vacancies.</li></ul> <p>Other regular monthly and quarterly release dates are set and published</p>	

six months in advance. The release date for the next publication is advised in each release. Labour-related monthly and quarterly releases include:

- Industrial Disputes;
- Average Weekly Earnings; and
- Employment and Earnings.

The month of release is set and published for annual and irregular releases twelve months in advance. The day of release is published three months prior to the release. Annual and irregular labour-related releases include:

- Employee Earnings and Hours;
- Labour Costs;
- labour-related supplementary surveys; and
- labour-related Special Social Surveys.

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| 10 | Data should be released the same day and at precisely the same time of day to all parties. If special privileges are given to journalists, this should be under 'lock-up' conditions.   | All ABS data are embargoed prior to 11.30am on the day of their release. They are then simultaneously released in both electronic and printed copy. Pre-releases and lockups are severely restricted. If circumstances require either lockup or pre-release they are limited to a short period of time prior to general release.   |
| 11 | If demands for prior access to the data within governments cannot be resisted, the number of persons with advance access should be kept to an absolute minimum and a list of these persons should be maintained; the period of notice they are given should be kept as short as possible. | Prior access is only given for main economic indicators and then only to Ministers responsible for government policy covered by that field of statistics, and to their departments. The pre-release is limited to a short period of time prior to embargo time. Special conditions apply to ensure that the pre-release information is only used to prepare Ministerial comment at or shortly after the official release time. |
| 12 | Ministerial commentaries and statements made at the time the statistics are released must be clearly distinguished from those of the statisticians.   | Ministerial comment is only made after the official release of ABS data, and is clearly distinguishable from ABS analysis.   |

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## DATA

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| 13 | Where there are significant shortfalls in the coverage of national employment and unemployment totals, users should be made aware of this and reminded every time the data are released. Providing subtotals sufficiently reliable can be produced for the purpose to be served, their availability should be well publicised.   | The ABS attempts to provide as many dissections of the data as accuracy will permit. Extensive use is made of Explanatory Notes, caveats and information papers to inform the public of any shortcomings in the data.   |
| 14 | Similarly, users should be made well aware of the reference period of the data.  | The reference period associated with each collection is highlighted in the publication titles, commentary and all associated output.  |
| 15 | If countries have the resources and there is evidence of user demand, the main aggregates should be released at least on a quarterly basis. Publication of information necessary for detailed structural analysis of the labour market should occur at least annually.   | Estimates of the labour force are released monthly, while industry and occupation splits are released quarterly.<br><br>A further range of labour data is produced at quarterly, annual and less frequent intervals.  |
| 16 | Labour statistics should be released as soon as possible after the data have been assembled and analysed. When the source is a household or establishment survey conducted monthly or quarterly, data for the main aggregates should normally be available within a quarter of the end of the reference period to which they refer. Ideally, annual survey data should be released, at least on a preliminary basis, within a half year of the reference period. | ABS policy is to release monthly main economic indicators within the month following the end of the reference period; other monthly publications are released within 6 weeks of the reference period.<br><br>Quarterly main economic indicators should be released within two months of the reference quarter; other quarterly publications should be released within the quarter following the reference quarter.<br><br>Labour force supplementary surveys should be released within six months of the reference period.<br><br>Annual publications should be released within one year of the reference period.<br><br>For irregular collections the first major release should be within 12 months of the reference period.<br><br>Also see point 9 above. |

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## QUALITY

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17	Regularly updated documentation on metadata - the definitions, methodology, sources, sampling error and other quality indicators, the questionnaires, forms, etc., used in preparing the statistics - should be made publicly available, including the degree of alignment with international recommendations.	Metadata are disseminated along with the data to which they relate, in the explanatory notes, glossaries, commentary, and other explanatory material associated with statistical outputs. Major changes to forms, questionnaires or methodology are announced in special information papers.
18	Where there are two or more sources of labour data, reconciliation or comparisons between them should be published regularly. Statistical frameworks and accounting schemes that support statistical cross-checks should also be developed.	Reconciliations or comparisons and reasons for differences are published from time to time, usually in explanatory notes within publications, or in special information papers.
19	Users should be given adequate advanced warning of revisions and their implementation should be guided by a code of practice.	Users are given adequate advance warning of major revisions, usually via an information paper prepared and published well in advance of implementation.
20	The statistical agency should make estimates for missing periods whenever collection or collation of data is interrupted. Similarly, the effects of discontinuities should be estimated.	In cases where there are large discontinuities, the effects of these discontinuities are estimated using the best methodology available.

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[Previous Page](#)

[Next Page](#)

## Chapter 22. Multi-Purpose Household Survey

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 22. Multi-Purpose Household Survey](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 15 December, 2005.**

### INTRODUCTION

22.0.1 The Multi Purpose Household Survey (MPHS) was introduced in 2004-05. This survey vehicle is designed to provide statistics annually for a number of small, self contained topics, including a number of labour related topics:

- Barriers and Incentives to Labour Force Participation (conducted every two years, commencing with 2004-05)
- Retirement and Retirement Intentions (conducted every two years, commencing with 2004-05)
- Work Related Injuries (conducted every four years, commencing with 2005-06)
- Work and Family Balance (conducted every three years, commencing with 2007-08).

22.0.2 This chapter describes the broad survey methodology of the MPHS. For information on the two labour related MPHS topics that have been conducted to date (Barriers and Incentives to Labour Force Participation and Retirement and Retirement Intentions), see chapters **22.1** and **22.2**.

### OBJECTIVES OF THE MULTI PURPOSE HOUSEHOLD SURVEY

22.0.3 The MPHS topics are an important part of the ABS's household surveys program, which aims to:

- provide a range of statistics needed to monitor the social and economic wellbeing of Australians with particular reference to important sub-groups of the population; and
- support the development, implementation and evaluation of policies and programs of key Commonwealth and State government agencies.

22.0.4 The information requirements of MPHS topics are determined on the basis of submissions from users on their needs for and uses of household survey data. They also reflect ABS deliberations on what is required of a national statistics program in the various subject fields, based on user contact and consultation.

22.0.5 The MPHS is a flexible multi-topic survey vehicle which is used to collect and output data in a timely fashion. The MPHS includes a number of topics that need personal interviewing (rather than using the any responsible adult (ARA) method) which are therefore unsuited to the monthly supplementary program. The MPHS will have shorter development and output times than the special social surveys to give flexibility in responding to user demands as they arise and to allow the ABS to respond to emerging demand and contemporary priorities in a timely way (publications will usually be available within six months of completion of data collection).

22.0.6 In addition to the labour-related topics outlined in paragraph 22.0.1, the MPHS program also includes other social and economic topics not related to labour statistics, such as household use of information technology, family transitions, adult learning, and time use.

## SURVEY OUTPUT

22.0.7 Estimates from each MPHS topic are released in separate publications. An expanded Confidentialised Unit Record File (CURF) will be made available from each MPHS via the Remote Access Data Laboratory (RADL). More information on CURFS and the RADL can be found on the ABS website, **Services We Provide - CURFS**. Other estimates are available on request.

## SCOPE

22.0.8 In addition to those already excluded from the LFS, the following people are excluded from most MPHS topics (see paragraphs 18.2 to 18.4 of **Chapter 18** for further information):

- people under 15 years (for 2004-05, people under 18 years were excluded);
- people living in private dwellings in very remote parts of Australia.
- people living in non-private dwellings such as hotels, university residences, students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for people with disabilities), and inmates of prisons; and
- visitors to private dwellings.

22.0.9 Depending on the topic, there may be further exclusions from scope. For example, some MPHS topics collect information only from a certain population or interest group (e.g. information on retirement is collected from people aged 45 years or over).

## COLLECTION METHODOLOGY

22.0.10 The MPHS is conducted in conjunction with the monthly LFS. One third of the dwellings in the LFS out-going rotation group (one eighth of the sample is rotated out each month) are selected for enumeration in the MPHS. From each dwelling selected for the MPHS, one person is randomly selected for interview.

22.0.11 The main collection method for the MPHS is personal interview, using computer assisted telephone interviewing.

22.0.12 Data for MPHS topics are collected each month over a financial year. This should reduce the impact of any seasonal effects on the data. For the first MPHS, conducted in respect of 2004-05, interviewing commenced in August 2004 rather than July.

## SAMPLE DESIGN

22.0.13 The MPHS uses the same sample design as the LFS. The sample used in the MPHS is a subset of the LFS sample. Each month a sample of approximately 1,250 dwellings were selected.

22.0.14 The size of the sample selected is approximately 15,000, but the response rates for the MPHS are slightly lower than for the LFS (averaging around 88%). The number of fully responding households will therefore be around 13,000. The size of the MPHS sample may be increased with user funding.

## ESTIMATION METHODS

22.0.15 The estimation technique used for household surveys is the generalised regression estimator.

22.0.16 The survey is benchmarked to the estimated civilian population aged 15 years and over living in private dwellings in each state and territory in non-sparsely settled areas. The process of weighting ensures that the survey estimates conform to person benchmarks by state, part of state, sex, age and household composition.

## RELIABILITY OF THE ESTIMATES

22.0.17 Estimates from the MPHS are subject to both sampling and non-sampling error (see **Chapter 17** for more detail). The relative standard errors (RSE) for each of the survey estimates will be published in shadow tables. For further information on calculating RSEs from the MPHS, see the technical notes of each publication.

22.0.18 A 'group jack-knife' variance estimator is used to calculate estimates of variance (see **Chapter 17** for more detail).

## FURTHER INFORMATION

22.0.19 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

This section contains the following subsection :

Chapter 22.2. Retirement and Retirement Intentions

Chapter 22.1. Barriers and Incentives to Labour Force Participation

[Previous Page](#)

[Next Page](#)

## 21.6. Labour Force Status and Other Characteristics of Migrants

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.6. Labour Force Status and](#)

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 08 July, 2005.

## INTRODUCTION

21.6.1 This survey provides data on the labour force status and other characteristics of people who migrated to Australia. The survey also collects information on temporary residents who planned to stay in Australia for 12 months or more. The information collected enables an assessment of the labour market experience of migrants. The most recent survey was conducted in 2004, with a population of people who migrated to Australia after 1984, were aged 15 years or over on arrival, and have permanent Australian resident status, as well as temporary residents. Similar surveys have been conducted on an irregular basis since 1984. Following the 2004 survey, the survey will be conducted every three years.

21.6.2 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

## SURVEY OUTPUT

21.6.3 Data from the survey are published in **Labour Force Status and Other Characteristics of Migrants, Australia** (cat. no. 6250.0). More detailed data are available on request.

21.6.4 The populations have varied between cycles of the survey. The main population of interest for the 2004 survey are people who were born overseas, arrived in Australia after 1984, were aged 15 years and over on arrival, and had obtained permanent Australian resident status prior to or after arrival. Estimates are produced on an original basis only (i.e. are not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, birthplace and year of arrival in Australia.
All persons	Labour force status, full-time or part-time status, status in employment (e.g. employee, employer, own account worker), industry and occupation.
Migrants	Whether had a job just before migration, whether worked full-time just before migration, occupation just before migration, residency status, visa type, type of permanent visa before becoming an Australian citizen, whether an Australian citizen, whether main applicant or whether arrived with main applicant, age on arrival, country of last residence, educational attainment on arrival, highest qualification gained since arrival, main source of income, and whether occupation before migration was the same as occupation on survey date.
Migrants born in other than main English-speaking countries	Proficiency in spoken English.
Migrants with post-school qualifications	Country in which qualification was obtained before migration, and whether the qualifications obtained before migration have been recognised in Australia.

21.6.5 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 2** (labour force status), **Chapter 4** (employment characteristics) and **Chapter 16** (socio-demographic information and industry).

## SCOPE

21.6.6 This survey is restricted to people who are aged 15 years or over. The standard scope restrictions for supplementary surveys outlined in **Chapter 21** also apply to this survey.

## DATA COMPARABILITY OVER TIME

21.6.7 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

1984	Initial survey conducted (March) - preliminary data published in <b>Characteristics of Migrants Aged 18 Years and Over at Time of Arrival and Who Arrived After 1960, Australia, Preliminary</b> (cat. no. 6249.0) and final data in <b>Characteristics of Migrants Aged 18 Years and Over at Time of Arrival and Who Arrived After 1960, Australia</b> (cat. no. 6250.0). Scope restricted to adult migrants who arrived after 1960.
1987	Survey conducted (March) - data published in <b>Labour Force Status and Other Characteristics of Migrants, Australia</b> (cat. no. 6250.0). Preliminary publication discontinued. Survey expanded to collect more data from couples, enabling wife to be classified as principal applicant for migration if this was the case.
1990	Survey conducted (September). Scope revised - adult migrants who arrived in Australia after 1970. Unit record data released (for this year only). For further information see <b>Information Paper: Labour Force Status and Other Characteristics of Migrants, Australia, September 1990, Unit Record File on Magnetic Tape</b> (cat. no. 6251.0)
1993	Survey conducted (September).
1996	Survey conducted (November). Data item 'Field of qualification obtained before migration' no longer available. Sample restricted to seven-eighths of the Labour Force Survey sample.
1999	Survey conducted (November). Scope revised - adult migrants who arrived in Australia after 1980 but excluding persons living in remote and sparsely settled areas.

**2004** Survey conducted (November).  
 Scope revised - migrants who arrived in Australia after 1984 and were aged 15 years or over on arrival (previous surveys collected data on people who were aged 18 years or over on arrival).  
 New population added - temporary residents who planned to stay in Australia for 12 months or more.  
 New data items relating to the residency status (including visa types) of the respondent added.  
 Data items related to whether the migrant had family or friends in Australia before migration and 'migration category' no longer available.

## FURTHER INFORMATION

21.6.8 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 22.1. Barriers and Incentives to Labour Force Participation

Contents >> Methods >> Household Collections >> Chapter 22. Multi-Purpose Household Survey >> Chapter 22.1. Barriers and Incentives to Labour Force Participation

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was first released on 8 February, 2006.**

## INTRODUCTION

22.1.1 The Barriers and Incentives to Labour Force Participation topic is included in the Multi Purpose Household Survey (MPHS) every two years. The Barriers and Incentives topic was first conducted in 2004–05.

22.1.2 The survey topic collects information about people who are not employed or who work few hours (15 hours a week or less in all jobs). The survey provides information on the potential labour force and what is preventing these people finding or taking up (more) work.

22.1.3 This section describes only those aspects of the methodology that are unique to this survey so it should be used in conjunction with the overview part of this chapter (**Chapter 22**), which outlines the survey methodology used in the MPHS.

## SURVEY OUTPUT

22.1.4 Data from the survey are published in **Barriers and Incentives to Labour Force Participation, Australia** (cat. no. 6239.0). An expanded Confidentialised Unit Record File (CURF) will be made available from the 2004–05 MPHS via the Remote Access Data Laboratory (RADL). Other estimates are available on request.

22.1.5 Data from the survey relate to people aged 18 years and over. The main populations of interest are people who are not employed (i.e. either unemployed or not in the labour force), and people who usually work 15 hours a week or less in all jobs. Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, whether household has children aged under 15 years, state or territory of usual residence, country of birth and period of arrival in Australia, education (e.g. level of highest educational attainment) and income (e.g. weekly gross income, sources of income, partner's income and household income).
People who usually work 0-15 hours per week in all jobs	Hours usually worked in all jobs, status in employment (i.e. employee, employer, own account worker or contributing family worker), full time or part-time status, details of current main job (e.g. hours usually worked, occupation, industry, duration), time since last full-time job, details of last full-time job, reason for ceasing last full-time job, unpaid activities when not working, whether prefers to work more hours than usually works, preferred number of hours, all reasons for not wanting to work more hours, whether looking for more hours, whether looking for part-time or full-time work, all reasons for not looking for more hours, main reason for not looking for more hours, main reason not available for more hours and difficulties finding more hours.
Unemployed people	Duration of current period of unemployment, unpaid activities, difficulties finding work, whether has ever worked and previous job details (e.g. whether has ever had a full-time job, whether previous work was full-time or part-time, time since last job, employment type of last job, occupation and industry of last job, reason for ceasing last job).
People who aren't in the labour force	Whether would like a paid job, whether would prefer to work full-time or part-time, preferred length/tenure of job, whether would accept a short-term/temporary job, whether available to start work in the reference week, time until available to start work, main reason not available to start work, main childcare reason not available to start work, all reasons for not wanting to work, whether looking for work and difficulties finding work.

22.1.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (employment characteristics), **Chapter 5** (underemployment), **Chapter 6** (unemployment), **Chapter 7** (persons not in the labour force) and **Chapter 16** (socio-demographic information).

## SCOPE

22.1.7 The scope of this survey is restricted to people aged 18 years and over. The standard scope restrictions for the MPHS outlined in the overview part of **Chapter 22** also apply to this survey.

## RELATED SURVEYS

22.1.8 The ABS conducts several surveys to collect information on people who are not participating, or are not participating fully, in the workforce. A number of annual surveys conducted as supplements to the Labour Force Survey provide information on these people, including the Persons not in the Labour Force Survey, the Job Search Experience Survey and the Underemployed Workers Survey. The Barriers and Incentives to Labour Force Participation topic is designed to consider and compare the various aspects of factors which influence participation.

22.1.9 Data from the supplementary surveys are not directly comparable with data from Barriers and Incentives to Labour Force Participation as there are differences in scope, collection methodology and sample design (including sample size). For example, the three supplementary surveys are conducted in a particular month each year, whereas Barriers and Incentives to Labour Force Participation data are usually collected over the 12 months of a financial year (for 2004-05, the survey was conducted over 11 months). Information for the supplementary surveys is collected using the Any Responsible Adult methodology, whereas the Barriers and Incentives topic uses personal interviewing. See chapters **Chapter 21** and **Chapter 22** for more information.

## DATA COMPARABILITY OVER TIME

22.1.10 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

**2004-05** Initial survey conducted (August 2004 to June 2005) - data published in **Barriers and Incentives to Labour Force Participation, Australia** (cat. no. 6239.0).

## FURTHER INFORMATION

22.1.11 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

# Chapter 23. Survey of Employment Arrangements and Superannuation

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 23. Survey of Employment Arrangements and Superannuation](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 15 December, 2005.**

## INTRODUCTION

23.1 In recent years there has been increasing demand for information on the diversity of working arrangements in the Australian labour market, and on superannuation. The Survey of Employment Arrangements and Superannuation (SEAS) was conducted from April to June 2000, in a sample of households across Australia, in order to provide information that will inform the debate in these areas. It is planned to conduct the survey again in 2007.

23.2 The aims of the SEAS were to describe:

- the diversity of working arrangements in the Australian workforce; and
- people's superannuation arrangements.

23.3 SEAS focused on those characteristics of employment considered important in distinguishing newer and emerging working arrangements from the prevalent, but declining, full-time ongoing job with regular hours and paid leave entitlements. These characteristics include:

- nature of employment (e.g. wage and salary earner, in own business, working on a fixed term contract);
- job duration and expected future job duration;
- access to paid leave;
- number of hours worked, and preferred hours, indicating overwork and underemployment;
- regularity of hours worked, and whether any hours were worked on weekends or in the evening or over night;
- working arrangements such as multiple jobholding, shiftwork, work done at home;
- earnings (amount and whether they vary); and

- preferred work patterns.

23.4 The focus of the superannuation section of the survey was on:

- the type of superannuation coverage that people had (e.g. employer or personal contributions, or both);
- how much people and their employers were contributing to superannuation, and how much money people had accrued in superannuation;
- reasons for not making personal contributions to superannuation; and
- the amount of any lump sums recently received from superannuation, and how the lump sum was used.

## SURVEY OUTPUT

23.5 First results from SEAS were released in **Employment Arrangements and Superannuation, Australia** (cat. no. 6361.0), in March 2001. This publication builds on work done as part of the supplement to the Labour Force Survey, the Forms of Employment Survey, published in **Forms of Employment, Australia**, (cat. no. 6359.0), to identify major employment categories in the Australian workforce. It also contains a wide range of information considered important in describing newer and emerging forms of working arrangements, and some information about superannuation coverage. A Confidentialised Unit Record File (CURF) is available via the Remote Access Data Laboratory (RADL). For more information on this CURF, see **Technical Paper: Employment Arrangements and Superannuation, Australia: Confidentialised Unit Record File, 2000** (cat. no. 6361.0.55.002). Information on CURFS and the RADL can be found on the ABS web site, **Services We Provide - CURFS**.

23.6 Financial superannuation information, including the amount being contributed to superannuation and the amount of superannuation accrued, was supplemented over an extended period by data provided by superannuation funds and administrators. Funds and administrators provided information only for those individual respondents who authorised them to do so. This information will be released for the first time in **Superannuation: Coverage and Financial Characteristics, Australia** (cat. no. 6360.0) later in 2001.

23.7 The main population of interest is employed people. Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, housing tenure, educational attainment, birthplace and year of arrival in Australia.
Labour force data	Labour force status.
People employed	Whether multiple job holder, status in employment, employment type, whether working on a casual basis (employees only), whether working on a contract basis (owner managers only), occupation, industry, time in job or business, whether job has a set finishing date, hours usually worked, hours worked at home, extra hours and overtime worked, preferred working hours, working patterns, preferred working patterns, paid leave entitlements, workplace injuries or illnesses sustained, training, work done at home, shiftwork, whether on call or stand-by, and whether paid by an employment agency.
People not currently working who had worked in the last 12 months	Some details of last job held.
Superannuation	Whether contributing to superannuation or drawing on superannuation; number of superannuation accounts and types of accounts; type of contributions, including personal, employer, spouse; amount being contributed, and amount accrued in superannuation; for those not making personal contributions, reasons for not personally contributing; and whether received a lump sum recently, and if 'yes' how the lump sum was used.
Income	Earnings for each job (up to two jobs); annual income; main source of income; and all sources of income.

23.8 Most data relate to individuals. Some data are also available for households, families and income units.

## SCOPE

23.9 The SEAS covered people aged 15-69 years who were usual residents of private dwellings in Australia, excluding:

- overseas residents in Australia;
- certain diplomatic personnel of overseas governments, customarily excluded from the Census and estimated resident population counts;
- members of non-Australian defence forces (and their dependants) stationed in Australia;
- people visiting private dwellings;
- people living in remote and sparsely settled areas; and
- people living in non-private dwellings (e.g. hotels).

23.10 Usual residents of selected private dwellings were included in the survey unless they were going to be absent from the dwelling until the end of the enumeration period. The exclusion of people living in remote and sparsely settled areas has only a minor impact on any aggregate estimates that are produced for individual states and territories, except the Northern Territory.

## SURVEY METHODOLOGY

23.11 Most information was obtained in the SEAS by personal interview.

23.12 To maximise the quality of the superannuation data obtained from the survey, respondents were asked to refer to a relevant record (payslip and/or superannuation statement) to report amounts contributed to superannuation, and amounts accrued in superannuation. This information was supplemented by data provided by superannuation funds in cases where the respondent was unable to refer to the relevant record(s) and was willing to authorise their superannuation fund to provide the required information. For more information, see **Superannuation: Coverage and Financial Characteristics, Australia** (cat. no. 6360.0).

## SAMPLE DESIGN

23.13 A probability sample design was used. The sample was drawn from the Population Survey Master Sample and excluded non-private dwellings and remote and sparsely settled strata. See **Chapter 18** for further information on sample design used in household surveys.

23.14 The initial sample contained approximately 18,000 private dwellings, or 14,000 after sample loss.

## ESTIMATION METHODS

23.15 Post-stratification estimation was used for person-level estimates. The post-stratification variables used to weight person-level estimates were:

- state;
- part of state;
- sex; and
- age.

23.16 Household, family and income unit estimates were also produced as part of SEAS. To obtain these estimates, weights for each household in the sample were calibrated with independent estimates of the number of households in Australia. The household benchmarks used to weight the number of households in the sample were:

- state;
- part of state; and
- household composition.

23.17 The benchmarks used for people and households relate only to people living in private dwellings, and therefore do not (and are not intended to) match estimates of the total Australian resident population obtained from other sources.

## RELIABILITY OF THE ESTIMATES

23.18 Estimates from SEAS are subject to both sampling and non-sampling error (see **Chapter 17** for more detail). The relative standard errors of survey estimates are included in each SEAS publication, and survey estimates with high relative standard errors are flagged with asterisks.

## DATA COMPARABILITY OVER TIME

23.19 The 2000 survey was the first SEAS collection. Some of the information collected as part of SEAS is very similar to that collected as part of the Forms of Employment Survey and, in some cases, similar data have been previously collected as part of the wider labour force supplementary survey program. However, allowances should be made for sampling variability, and for differences in scope and survey methodology.

## FURTHER INFORMATION

23.20 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 4. Employment Measures and Classifications

[Contents >>](#) [Concepts and Sources >>](#) [Chapter 4. Employment Measures and Classifications](#)

### CHAPTER 27. JOB VACANCIES SURVEY

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.

## INTRODUCTION

27.1 The Job Vacancies Survey (JVS) was first conducted in 1974 and is a quarterly survey. The survey produces estimates of the number of job vacancies in Australia which are used as a leading indicator of employment growth, in monitoring of the Australian economy, and for formulating economic policy.

## **SURVEY OUTPUT**

27.2 Estimates are published quarterly in [Job Vacancies, Australia](#) (cat. no. 6354.0). More detailed estimates are available on request.

27.3 The population of interest is civilian employee job vacancies, available for immediate filling on the survey reference date, excluding vacancies for jobs based outside Australia. The series compiled from the survey is:

- employee job vacancies.

27.4 Data published for the job vacancies series are available on the following bases: original; seasonally adjusted; and trend. See [Chapter 17](#) for further explanation of original, seasonally adjusted and trend estimates.

27.5 Estimates from the survey are classified by sector, State/Territory and industry (ANZSIC Division).

27.6 Estimates are compiled according to the concepts and definitions outlined in [Chapter 4](#) (employees) and [Chapter 11](#) (job vacancies).

## **SCOPE**

27.7 The scope of the survey is restricted to employing businesses. In addition, the standard scope exclusions for ABS labour-related business surveys (outlined in [Chapter 25](#)) apply to this survey.

## **SURVEY METHODOLOGY**

27.8 Details of the total number of employee job vacancies available for immediate filling on the survey reference date are obtained on a quarterly basis from selected businesses. A telephone interview collection methodology is used.

27.9 The survey reference date for job vacancies is the third Friday in the middle month of the quarter.

27.10 Follow-up procedures are in place to obtain information from respondents who are unable to provide data at the time of the initial interview. Response rates for the survey averaged 98% in the 2005-06 financial year.

## **SAMPLE DESIGN**

27.11 The statistical unit for the survey comprises all the activities of an employer in a particular state or territory based on the Australian Business Number (ABN) unit or Type of Activity Unit (TAU). However, where the statistical unit is unable to provide information required for the survey, it may be split into a number of 'reporting units'. For further information on statistical units used in ABS business surveys refer to [Chapter 25](#).

27.12 A probability sample of statistical units (employing businesses) is drawn from the ABS Business Register using the process outlined in [Chapter 25](#). Variables used to stratify the survey frame are:

- State/Territory;
- industry - industry stratification is based on ANZSIC division; and
- employment size - the ranges used vary between States/Territories and industries.

27.13 Statistical units with benchmark employment greater than a set cutoff (this cutoff will vary for different States/Territories) are completely enumerated. Strata with a very small number of statistical units may also be completely enumerated. Where there is a sufficient increase in the number of units in such strata, they may become sampled strata.

27.14 In addition to constraints outlined in [Chapter 25](#), sample selection is constrained by ensuring that there is minimum overlap with other labour-related business surveys.

## **SAMPLE SIZE AND ALLOCATION**

27.15 Approximately 5,000 statistical units are selected in the sample to yield a live sample of approximately 4,700 units.

27.16 The sample is allocated optimally across the strata using a technique designed to minimise the variance of job vacancies estimates at both the national and State/Territory level.

## **SAMPLE ROTATION**

27.17 The sample is updated each quarter to reflect changes in the ABS Business Register. Approximately 8% of the sample selected from the non-completely enumerated strata is replaced each quarter. This process is called sample rotation (see [Chapter 25](#) for further explanation).

27.18 Sample rotation is implemented for the majority of strata, but is not implemented where the population of a stratum is so small that units rotating out of the sample would be rotated back in after only a short interval.

## **ESTIMATION**

27.19 Number raised estimation is used in all strata.

27.20 For non-responding units in the sampled strata, the Live Respondent Mean method (outlined in [Chapter 25](#)) of imputation is used. For non-response units in the completely enumerated strata, an imputed growth rate is applied to the most recent reported data for the unit, provided that data have been reported in either of the two previous quarters. Growth rates are estimated from live CE sector respondents in the most recent cycle. Otherwise data is imputed based on the benchmark employment.

27.21 For non-responding units in the completely enumerated (CE) strata, an imputed growth rate is applied to the most recent reported data for the unit, provided that data have been reported in either of the two previous quarters. Growth rates are estimated based on data provided by CE respondents for the most recent quarter. Where data for non-responding CE units have not been reported in either of the two previous quarters, ratio imputation is used. The ratio of job vacancies to benchmark employment is calculated at industry division level for responding units from the current quarter. This ratio is then applied to the benchmark employment for the non-responding unit.

27.22 Survey outliers are treated using the 'surprise outlier' technique.

27.23 Adjustments are made to survey estimates each quarter to allow for births and deaths of businesses that have occurred up to the end of the survey reference period but which are not reflected on the survey frame. These adjustments, called Business Provisions, were introduced in November 1999.

27.24 For further information on estimation methods used in ABS Business Surveys, refer to [Chapter 25](#).

## TIME SERIES ESTIMATES

27.25 Both seasonally adjusted and trend estimates are produced for the job vacancies series at the Australia level only.

### Seasonal adjustment

27.26 The series are seasonally adjusted from February 1984. JVS uses the concurrent seasonal adjustment method to derive seasonal factors. The seasonal factors are reviewed annually to take account of each additional year's original data. The review takes place in time for the results to be reflected in each November issue of [Job Vacancies, Australia](#) (cat. no. 6354.0).

### Trend estimates

27.27 Trend estimates were introduced in August 1993, and are revised each quarter.

## RELIABILITY OF THE ESTIMATES

27.28 Estimates from the survey are subject to both sampling and non-sampling error. The relative standard errors of survey estimates are published in [Job Vacancies, Australia](#) (cat. no. 6354.0).

27.29 The 'jack-knife' approach is used to calculate estimates of variance for this survey. For further information on the jack-knife technique for calculating variance, or on sampling and non-sampling error, refer to [Chapter 17](#).

## DATA COMPARABILITY OVER TIME

27.30 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and time series analysis methods are made as infrequently as possible. Significant changes have included:

- 1974** Mail-based annual Job Vacancies Survey commenced.
- .
- 1977** Introduction of smaller scale quarterly telephone-based survey.
- .
- 1978** Annual and quarterly surveys discontinued.
- .
- 1979** Quarterly survey reintroduced.  
Treatment of Australian Public Service vacancies changed to exclude vacancies only available to public service employees.
- .
- 1980** First collection of job vacancies registered with the CES (continued on annual basis).
- .
- 1982** Collection of vacancies classified by sex discontinued.
- .
- 1983** Overtime Survey merged with Job Vacancies Survey. Sample size increased, with selection from the ABS Business Register.
- .
- 1984** Seasonally adjusted series produced for the first time (February). Annual seasonal reanalysis of data performed for the November reference period.
- .
- 1985** Job vacancies data published by sector for the first time.
- .
- 1988** ABS publication of job vacancies registered with the CES discontinued.
- .
- 1993** Trend estimates published for the first time (August).
- .
- 1994** Survey redesigned on an ANZSIC industry basis. Industry data backcast on ANZSIC basis. Sample rotation increased from approximately 5% to approximately 8% in rotating strata.
- 1998** Treatment of Australian Public Service vacancies changed (from being excluded to being included) after vacancies made available to all Australian citizens.
- .
- 1999** Introduction of Live Respondent Mean imputation for the sampled sector, and the Business Provisions adjustment for the private sector.  
Overtime component discontinued.  
Significant improvement in procedures, particularly coverage of vacancies within statistical units.

- 2002** Introduction of changes to the ABS Business Register and the ABS statistical units model arising from the New Tax System. These changes did not affect the continuity of the key statistical series.
- 2003** Collection of number of employees discontinued.  
Publication of job vacancy rate discontinued.
- 2006** Concurrent seasonal adjustment method introduced, replacing the forward factor adjustment method previously used.

## FURTHER INFORMATION

27.31 For further details contact the Manager, Job Vacancies Survey on Perth (08) 9360 5357.

[Previous Page](#)

[Next Page](#)

# Chapter 30. Survey of Employee Earnings and Hours

[Contents >> Methods >> Business Collections >> Chapter 30. Survey of Employee Earnings and Hours](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 20 April, 2005.**

## INTRODUCTION

30.1 The Survey of Employee Earnings and Hours has been conducted since 1974. It is currently conducted biennially. The survey produces estimates of average weekly earnings and the distribution of weekly earnings and hours paid for, of employees. It also produces estimates of the proportion, and average weekly total earnings, of employees whose pay is set by award only, by collective agreement and by individual arrangement. Estimates from the survey are used by Commonwealth and State government departments, employer associations, trade unions and academic researchers. They are used in developing and reviewing wages and labour market policies, in the wage negotiating process, and in research into various aspects of the labour market.

## SURVEY OUTPUT

30.2 Estimates are published initially in **Employee Earnings and Hours, Australia, Preliminary** (cat. no. 6305.0.55.001) and later in **Employee Earnings and Hours, Australia** (cat. no. 6306.0). More detailed estimates are also available on request.

30.3 A number of series are compiled from the survey based on the distribution and composition of earnings and hours paid for, and the methods by which pay is set. These include:

- Distribution of all employees by: weekly total earnings; weekly ordinary-time earnings; and weekly overtime earnings;
- Composition of average weekly earnings: average weekly total earnings; average weekly ordinary-time earnings; and average weekly overtime earnings;
- Distribution of non-managerial employees by: weekly total hours paid for; weekly ordinary-time hours paid for; and weekly overtime hours paid for;
- Average hourly earnings (not available for managerial employees): average hourly ordinary-time earnings; and average hourly total earnings;
- Composition of average weekly hours paid for (not available for managerial employees): average weekly total hours paid for; average weekly ordinary-time hours paid for; and average weekly overtime hours paid for;
- How employees' pay is set (collected for the first time in 2000): award only; collective agreement; and individual arrangement.

30.4 Data can also be cross-classified by: state/territory; sector (public, private); level of government (Commonwealth, State, Local); industry (4 digit ANZSIC); employer size; sex; age (under 18 years, 18 to under 21 years, 21 years and over); full-time/part-time; adult/junior; managerial/non-managerial; type of employee (permanent or fixed-term, casual); status of employee (working proprietor, managerial/executive, other employee); and occupation (4 digit ASCO).

30.5 Data on how employees' pay was set in the reference period have been collected in the survey since May 2000. Data are available on: number of, and average weekly total earnings of, employees whose pay is set by each pay setting method.

30.6 Data are compiled according to the concepts and definitions outlined in **Chapter 4** (employees), **Chapter 12** (earnings) and **Chapter 13** (pay setting methods).

## SCOPE

30.7 For the first-stage sample of employing businesses, the standard scope exclusions for ABS labour-related business surveys (outlined in **Chapter 25**) apply to this survey.

30.8 The scope of the second-stage sample is restricted to civilian employees based in Australia who received payments during the survey reference period. Self-employed persons (such as proprietors/partners of unincorporated businesses), employees who did not receive pay during the reference period (such as persons on unpaid leave), employees based outside Australia, and members of the Australian permanent defence forces are not in scope of the survey.

## SURVEY METHODOLOGY

30.9 Detailed information is obtained about a sample of employees from each selected organisation using a mail-out/mail-back collection methodology.

30.10 The survey reference period is the last pay period ending on or before the third Friday in May of the survey year.

30.11 Businesses that do not mail back their completed questionnaire within a reasonable period of time after the survey reference date are followed up by mail and then phone if necessary.

## **SAMPLE DESIGN**

30.12 The survey uses a two-stage sample selection approach. The first stage involves selecting a probability sample of employer units from the ABS Business Register. The sampling unit for the first stage comprises all activities of an employer in a particular state or territory based on the Australian Business Number (ABN) unit or Type of Activity Unit (TAU). The collection and reporting units used in the survey usually correspond to the sampling unit. However, where the ABN/TAU unit is unable to provide information required for the survey, it may be split into a number of 'reporting units'. For further information on statistical units used in ABS business surveys refer to **Chapter 25**.

30.13 In the second stage, businesses selected in the first stage are asked to select a sample of employees from their payrolls using instructions provided by the ABS.

## **FIRST STAGE SAMPLE SELECTION**

30.14 A probability sample of employing businesses (ABN/TAU units) is drawn from the ABS Business Register using the process outlined in **Chapter 25**. Variables used to stratify the survey frame at stage one of the sample selection are:

- state or territory;
- sector - the public and private sectors are stratified separately;
- industry - within the private sector, industry stratification is by ANZSIC division; within the public sector ANZSIC divisions are aggregated to form four broad industry groupings; and
- employment size - the ranges used vary between states and territories, sectors and industries.

30.15 Strata on the survey frame that are completely enumerated include those containing selection units with benchmark employment greater than a set cut-off (this cut-off will vary for different states/territories) and strata with a very small number of selection units in the population.

30.16 In addition to constraints outlined in **Chapter 25**, sample selection is constrained by the need to minimise overlap with the quarterly Survey of Average Weekly Earnings, for businesses with more than 20 employees.

## **SECOND STAGE SAMPLE SELECTION**

30.17 Second-stage sampling units (employees) are selected using systematic sampling within selected first-stage units. A random start and a skip are provided to each selected business for use in selecting the second-stage sample from its payroll(s). Businesses with an unknown employment size are given a skip of one. Businesses are not required to order their payroll in any particular way when selecting the sample.

## **SAMPLE SIZE AND ALLOCATION**

30.18 For the first-stage sample, approximately 9,000 employer units are selected to yield a live sample of approximately 6,800 units.

30.19 For the second-stage sample, approximately 55,000 employees contribute to the estimates. The maximum number of employees for any reporting unit is 40.

## **SAMPLE RESELECTION**

30.20 The ABS reselects the sample for the Survey of Employee Earnings and Hours each time it is conducted. At the same time the overall design of the sample is examined to ensure that it remains efficient.

## **ESTIMATION**

30.21 The estimation process occurs in two stages. In the first stage, number raised estimation is used to estimate the number of employees in each business. In the second stage, number raised estimation is again used to estimate the total number of businesses, and therefore employees, in the target population.

30.22 In the sampled strata, the Live Respondent Mean method is used to impute for non-responding businesses. In the completely enumerated strata a ratio imputation model is used.

30.23 Survey outliers are handled using the 'surprise outlier' technique.

30.24 Business Provisions were introduced in the 2000 survey whereby adjustments are made to survey estimates to allow for births and deaths of businesses that have occurred up to the end of the survey reference period but which are not reflected on the survey frame.

30.25 For further information on estimation methods used in ABS Business Surveys, refer to **Chapter 25**.

## **TIME SERIES ESTIMATES**

30.26 Seasonally adjusted and trend estimates are not produced for this survey.

## **RELIABILITY OF THE ESTIMATES**

30.27 Estimates from the survey are subject to both sampling and non-sampling error. The standard errors of survey estimates are published in both **Employee Earnings and Hours, Australia, Preliminary** (cat. no. 6305.0.55.001) and **Employee Earnings and Hours, Australia** (cat. no. 6306.0).

30.28 Both the Ultimate Cluster Variance (UCV) technique and the grouped jack-knife method are used to calculate estimates of variance for this survey. For further information on variance estimation techniques, or on sampling and non-sampling error, refer to **Chapter 17**.

## DATA COMPARABILITY OVER TIME

30.29 Although many estimates from previous years or collection cycles are produced on a consistent basis, care should be taken in using data from this survey on a time series basis. The survey is designed to give an accurate 'snapshot' of data rather than an ongoing series of observations over time. Hence the survey methodology and sample design are not specifically set up to provide time series data, i.e. the sample is not set up to have the same employee jobs in it for more than one cycle. Nevertheless, average weekly earnings and hours paid for data at aggregate levels are compiled in a consistent manner over time, although successive estimates would not be strongly correlated because of low sample overlap.

30.30 The following changes have been made to survey methods, survey concepts, data item definitions, and frequency of collection.

<b>1974</b>	Annual survey commenced; first-stage sample frame comprised lists of employers subject to payroll tax and lists of government departments and hospitals.
<b>1981</b>	Survey frequency changed to biennial.
<b>1983</b>	First-stage sample frame changed to ABS Business Register.
<b>1986</b>	Survey frequency changed to annual.
<b>1993</b>	Payments from workplace and enterprise agreements included in 'Base pay' rather than 'Overaward and overagreement pay'.
<b>1995</b>	Sample redesign on an ANZSIC basis.
<b>1996</b>	Biennial survey recommenced replacing annual survey.
<b>2000</b>	Questions introduced on how employees' pay is set. Live Respondent Mean imputation method introduced for the sampled strata and ratio imputation method introduced for the completely enumerated strata. Business Provision adjustments introduced. Second-stage sample reduced significantly. 'Overaward and overagreement pay' not collected separately but included in 'Base pay'. Ceased collection of 'Apprentice/trainee' in status of employee.
<b>2002</b>	How employees' pay is set questions redeveloped. Changes made to employee type question (replaced 'Temporary' with 'Fixed-term'). Question introduced on amount employee salary sacrificed. Sample re-designed to minimise overlap with the Survey of Average Weekly Earnings for businesses with less than 20 employees. Ceased collection of 'Supervisor' in status of employee.
<b>2004</b>	Introduction of new statistical units model. Changes made to employee type question (combined 'Permanent' and 'Fixed-term'). Base pay, taxable allowances and payment by measured result no longer collected separately. Introduction of grouped jack-knife method for calculation of variance estimates. Working proprietors of incorporated businesses separated from other employees with individual arrangements in method of setting pay classification.

## FURTHER INFORMATION

30.31 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 22.2. Retirement and Retirement Intentions

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 22. Multi-Purpose Household Survey](#) >> [Chapter 22.2. Retirement and Retirement Intentions](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was first released on 8 February, 2006.**

## INTRODUCTION

22.2.1 The Retirement and Retirement Intentions topic is included in the Multi Purpose Household Survey (MPHS) every two years, beginning with 2004-05. Data on retirement and retirement intentions were previously collected in a survey conducted as a supplement to the Labour Force Survey. The Retirement and Retirement Intentions supplementary survey was conducted on an irregular basis between 1980 and 1997 (see **Chapter 21.11** for further details).

22.2.2 Data from the MPHS Retirement and Retirement Intentions topic are used to examine changes in retirement trends over time, factors which influence retirement and the income arrangements retirees and potential retirees have made to provide for their retirement.

22.2.3 This section describes only those aspects of the methodology that are unique to this survey topic so it should be used in conjunction with **Chapter 22**, which outlines the survey methodology used in the MPHS.

## SURVEY OUTPUT

22.2.4 Data from the survey are published in **Retirement and Retirement Intentions, Australia** (cat. no. 6238.0). An expanded Confidentialised Unit Record File (CURF) will be made available from the 2004-05 Multi Purpose Household Survey via the Remote Access Data Laboratory (RADL). Other estimates are available on request.

22.2.5 The survey collects information about the retirement and retirement intentions of people aged 45 years and over who have, at some time, worked for two weeks or more. Estimates are available on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, whether household has children aged under 15 years, state or territory of usual residence, country of birth and period of arrival in Australia, education (e.g. level of highest educational attainment) and income (e.g. weekly gross income, sources of income, partner's income and household income).
People who have retired from the labour force	Details of last job (e.g. full-time or part-time status, status in employment, occupation, industry, reason for ceasing last job), age at retirement from the labour force, time since retirement, sources of income at retirement, details about superannuation (e.g. whether contributed to a superannuation scheme, time contributing, methods of disbursement of lump sum payment).
People who intend to retire from the labour force	Details of current job (e.g. full-time or part-time status, status in employment, occupation, industry), age intends to retire, expected time until retirement, factors influencing decision about when to retire from the labour force, expected sources of income at retirement, previous retirement status (whether had previously retired from work or not), reasons for returning to work (for those who had previously retired) and details about superannuation (e.g. whether contributed to a superannuation scheme, time contributing).

22.2.6 All data collected are compiled according to concepts and definitions outlined in **Chapter 2** (labour force status), **Chapter 4** (employment characteristics) and **Chapter 16** (socio-demographic information and industry).

## SCOPE

22.2.7 The scope of this survey is restricted to people aged 45 and over. The standard scope restrictions for the Multi Purpose Household Survey outlined in the overview part of **Chapter 22** also apply to this survey.

## RELATED SURVEYS

22.2.8 Data on retirement and retirement intentions were previously collected in a survey conducted as a supplement to the Labour Force Survey. The Retirement and Retirement Intentions supplementary survey was conducted on an irregular basis between 1980 and 1997. Data from the supplementary survey and the MPHS topic are not directly comparable as there are differences in the concepts measured, scope, collection methodology and sample design (including sample size). For example, the November 1997 supplementary survey definition of 'retired from the labour force' comprised 'persons who had retired from work or looking for work of more than 10 hours per week, and did not intend to work in the future' and 'persons that have never worked more than 10 hours per week', whereas the MPHS definition is 'persons who had previously worked for two weeks or more and had retired from work or looking for work, and did not intend to look for, or take up, work at any time in the future'. See chapters **21** and **22** for more information.

## DATA COMPARABILITY OVER TIME

22.2.9 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

**2004–05** Initial survey conducted (August 2004 to June 2005) - data published in **Retirement and Retirement Intentions, Australia** (cat. no. 6238.0).

## FURTHER INFORMATION

22.2.10 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## 21.7. Labour Mobility

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> **21.7. Labour Mobility**

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.**

### INTRODUCTION

21.7.1 The Labour Mobility survey provides information on job mobility and job tenure over a 12 month period. The survey was first conducted in November 1972. Since February 1992 the survey has been conducted biennially, with the most recent survey conducted in February 2000. Over this time the survey design has remained broadly the same, with some changes to the scope and sample size.

21.7.2 The survey is the only source of data on labour force mobility over a twelve month period and (in conjunction with the Labour Force Experience survey) is a major source of data for analysing the dynamic nature of the labour force.

21.7.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction

with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

## SURVEY OUTPUT

21.7.4 The data are published in **Labour Mobility, Australia** (cat. no. 6209.0). More detailed estimates are available on request.

21.7.5 Data from the survey relate to persons aged 15-69. The main population of interest is persons who worked at some time during the year. Details of last job and jobs held currently may relate to jobs outside Australia. Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, State of usual residence 12 months prior to survey date, educational attainment, birthplace and year of arrival in Australia.
Persons who worked at some time during the year	Whether in the labour force at survey date and, if so, whether working or looking for work; whether in the labour force 12 months prior to survey date and, if so, whether working or looking for work; number of employers or businesses during the year; details of jobs held during the year including occupation, industry, full-time/part-time status and status in employment - details are collected where appropriate for up to three jobs (current, last job and job held 12 months prior to survey date); job mobility (whether changed employer/business or locality); details of changes in labour force status and jobs held over survey reference period (between survey reference date and situation 12 months prior).
Persons who were working at survey date	Duration of current job, summary of changes from last to current job (e.g. whether changed occupation, industry, full-time/part-time status), summary of changes from job held 12 months previous to current job.
Persons who were working at survey date and had changed locality from last job	Reason changed locality.
Persons who ceased a job during the year	Reason for ceasing last job, duration of last job.

21.7.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (employment characteristics) and **Chapter 16** (socio-demographic information and industry).

## SCOPE

21.7.7 The scope of this survey is restricted to persons aged 15-69 years. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## DATA COMPARABILITY OVER TIME

21.7.8 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 19** and are not repeated here.

<b>1972</b>	Initial survey conducted (November) - preliminary data published in <b>Labour Mobility, Preliminary</b> (Ref. no. 6.34) and final data in <b>Labour Mobility</b> (Ref. no. 6.43). Survey reference period - preceding calendar year. Sample size restricted to three-quarters of the Labour Force Survey sample.
<b>1975</b>	Survey conducted (February).
<b>1976</b>	Survey conducted (February).
<b>1979</b>	Annual collection commenced (February). Catalogue numbers replaced reference numbers - cat. no. 6208.0 (preliminary data) and cat. no. 6209.0 (final data).
<b>1981</b>	Change to survey reference period - beginning of February in the previous year to the end of the reference week. Reasons for leaving job collected only from persons who stated they changed jobs (previously asked of all persons leaving a job). For persons who changed jobs during the reference period, data collected about current job and first job held during the reference period (previously asked about current job and previous job held).
<b>1983</b>	Change to survey reference period - 52 weeks to the end of the week prior to interview.
<b>1988</b>	Preliminary publication discontinued.
<b>1989</b>	Sample size reduced to one-half of the Labour Force Survey sample.
<b>1990</b>	Persons aged 70 and over excluded from the scope of the survey. Sample size increased to full Labour Force Survey sample.
<b>1992</b>	Annual collection ceased - replaced by biennial collection.
<b>1996</b>	Sample restricted to no more than seven-eighths of the Labour Force Survey sample.

**1998** Persons living in remote and sparsely settled areas excluded from scope.

## FURTHER INFORMATION

21.7.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 31. Survey of Employment and Earnings

[Contents >> Methods >> Business Collections >> Chapter 31. Survey of Employment and Earnings](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.**

### INTRODUCTION

31.1 The Survey of Employment and Earnings has been conducted on a quarterly basis since 1983. The purpose of the survey is to measure both the number of public sector wage and salary earners employed in the middle month of each quarter, and their total gross quarterly earnings. Data are used in developing and reviewing wages and labour market policies, and in the Australian National Accounts in estimates of compensation of employees and of labour productivity. Prior to March quarter 2002 the survey collected data for both the public and private sector. Private sector data on total quarterly earnings is now collected in the Quarterly Business Indicators Survey and is published in **Business Indicators, Australia** (cat. no. 5676.0).

### SURVEY OUTPUT

31.2 Estimates from the survey are published quarterly in **Wage and Salary Earners, Public Sector, Australia** (cat. no. 6248.0). From the September quarter 2003 issue the printed publication was replaced with an electronic publication (cat. no. 6248.0.55.001) containing a small number of summary tables which is available free from the ABS web site. More detailed tables are available as electronic spreadsheets, through the ABS web site, AusStats and ABS@, or on request.

31.3 The population of interest is public sector civilian employee jobs, for which wage and salary payments were made in the survey reference period, excluding employee jobs based outside Australia. Two main series are published:

- public sector wage and salary earners; and
- gross quarterly earnings for public sector wage and salary earners.

31.4 Data published from the first series (public sector wage and salary earners) are available on the following bases: original; seasonally adjusted; and trend. Original estimates only are available for the gross earnings series.

31.5 Data can be cross-classified by: state and territory; industry (ANZSIC 2 digit level subject to confidentiality constraints); level of government; and public institutional sector. The following earnings components within the gross earnings series are available on request: gross wages and salaries; fees paid to directors and office holders; and severance, termination and redundancy payments.

31.6 Data collected within the survey are compiled according to the concepts and definitions outlined in **Chapter 12**. Earnings estimates from the Survey of Employment and Earnings are broader than, and thus not directly comparable with, earnings estimates from the Survey of Average Weekly Earnings (AWE), and the Survey of Employee Earnings and Hours (EEH). Earnings in the Survey of Employment and Earnings comprise earnings as defined in AWE and EEH, and a number of irregular remuneration components that are excluded from AWE and EEH (e.g. retrospective pay, pay in advance, and irregular bonuses and gratuities).

### SCOPE

31.7 Public sector employing organisations operating in the Agriculture, Forestry and Fishing industries (ANZSIC Division A) are included in the scope of this survey. Otherwise, the standard scope exclusions for ABS labour-related business surveys (outlined in **Chapter 25**) also apply to this survey.

### SURVEY METHODOLOGY

31.8 Details of the number of employee jobs and quarterly earnings are obtained on a quarterly basis from selected businesses using a mail-out/mail-back collection methodology. Data for some commonwealth and territory government organisations are collected electronically on a fortnightly basis from a centralised pay system.

31.9 The survey reference period for earnings data is all pay periods that end within the quarter. Earnings estimates may, therefore, be affected by variation in the number of pay periods from quarter to quarter. Number of employee jobs is collected for the middle month of the quarter (in respect of a particular pay period).

31.10 Employer units which do not mail back their completed questionnaire within a reasonable period of time after the reference period are followed up by mail and then phone if necessary. Response rates for the Survey of Employment and Earnings for the 2002-03 financial year averaged 99%.

### SAMPLE DESIGN

31.11 The sampling (or selection) unit for the survey comprises all activities of an employer in a particular state or territory based on the

Australian Business Number (ABN) unit or Type of Activity Unit (TAU). However, where the selection unit is unable to provide information required for the survey, it may be split into a number of 'reporting units'. For further information on statistical units used in ABS business surveys refer to **Chapter 25**.

31.12 A probability sample of selection units is drawn from the ABS Business Register using the process outlined in **Chapter 25**. Variables used to stratify the survey frame are:

- state or territory;
- industry - industry stratification is based on ANZSIC division; and
- employment size - the ranges used vary between states and territories, sectors and industries.

31.13 Strata on the survey frame that are completely enumerated include those containing statistical units with benchmark employment greater than a set cut-off (this cut-off will vary for different states/territories) and strata with a very small number of sampling units. Strata which are completely enumerated because they contain a low number of units may become sampled strata if the number of units in those strata increases sufficiently.

31.14 In addition to constraints outlined in **Chapter 25**, sample selection is constrained by the need to ensure that there is minimum overlap with other labour-related business surveys.

## **SAMPLE SIZE AND ALLOCATION**

31.15 Approximately 2,500 public sector employer units are selected in the sample to yield a live sample of approximately 2,200 employer units.

31.16 The sample is allocated optimally across sampled strata using a technique designed to minimise the variance of total employment and gross quarterly earnings at both the national and state/territory level.

## **SAMPLE ROTATION**

31.17 The sample is updated each quarter to reflect changes in the ABS Business Register. Approximately 8% of the sample from non-completely enumerated strata replaced each quarter.

31.18 Sample rotation is implemented for the majority of sampled strata with businesses with 50 employees or less. Sample rotation is not implemented where the population of a stratum is so small that units rotating out of the sample would be rotated back in after only a short interval.

## **ESTIMATION**

31.19 Ratio estimation is used in all strata, except in cases where there is a large proportion of units with zero benchmark employment, in which case number-raised estimation is used.

31.20 Beta imputation is used in both the completely enumerated and sampled strata, provided that data have been reported in either of the two previous quarters. Otherwise, the Live Respondent Mean method is used to impute for missing data items.

31.21 Significance editing was introduced in September 1999. With this technique, editing is only performed on those survey values which will significantly impact on the survey estimate if left unaltered.

31.22 Survey outliers are dealt with using the 'surprise outlier' technique.

31.23 For further information on estimation methods used in ABS Business Surveys, refer to **Chapter 25**.

## **TIME SERIES ESTIMATES**

31.24 Both seasonally adjusted and trend estimates are produced for key employment series from this survey.

### **Seasonal adjustment**

31.25 Seasonally adjusted employment estimates were introduced in March quarter 1989. The seasonal factors are reviewed annually to take account of each additional year's original data. The review takes place in time for the results to be incorporated in each March quarter issue of **Wage and Salary Earners, Public Sector, Australia** (cat. no. 6248.0.55.001).

### **Trend estimates**

31.26 Trend estimates for those series that are seasonally adjusted were introduced in June 1993.

## **RELIABILITY OF THE ESTIMATES**

31.27 Estimates from the survey are subject to both sampling and non-sampling error. The standard errors of survey estimates are published in **Wage and Salary Earners, Public Sector, Australia** (cat. no. 6248.0.55.001).

31.28 The 'jack-knife' approach is used to calculate estimates of variance for this survey.

## **COLLECTION HISTORY**

31.29 A sample survey of employers based on the existing ABS Business register was introduced in 1983. This survey replaced the payroll tax based Civilian Employees series which was discontinued in April 1980.

YEAR	EVENT
1983	Survey of Employment and Earnings commenced.
1989	Seasonally adjusted estimates introduced.
1992	First data collected electronically.
1993	Trend estimates introduced.
1995	Publication suspended after March quarter, but collection continued.
1997	Publication resumed with March quarter, with data published back to June quarter 1995.
1999	Beta imputation introduced; introduction of significance editing.
2002	Collection of private sector data discontinued from March quarter 2002. Monthly employment and the full-time/part-time split of employment in the middle month of the quarter discontinued.

## DATA COMPARABILITY OVER TIME

31.30 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, and time series analysis methods are made as infrequently as possible. Significant changes have included:

YEAR	EVENT
1983	Public sector completely enumerated.
1988	Size of private sector sample reduced. Sampling introduced for public sector.
1992	Sample size reduced.
1993	Private sector sample size reduced.
1995	Number of strata using number-raised estimation increased. Number of rotating strata reduced, and rotation increased from 5% to 8.33%. Publication suspended after March quarter, but collection continued.
1996	Male and female employment split last collected in May 1996.
1997	Publication resumed with March quarter, with data published back to June quarter 1995. Extensive revisions made to previously published data due to past deficiencies in the coverage of small businesses on the ABS Business Register. New business provisions adjustment introduced and backcast to beginning of the series. Survey redesigned on an ANZSIC industry basis and previously published ASIC estimates recompiled on an equivalent ANZSIC basis back to September quarter 1983. Public sector sample size reduced, except for some industries with small populations in Northern Territory and the Australian Capital Territory, which became fully enumerated.
1998	Live Respondent Mean imputation introduced for the sampled sector. Introduction of priority Intensive follow-up. Introduction of changes to estimation procedures.
1999	Beta imputation introduced Introduction of significance editing.
2001	Private sector component of the survey last collected in December quarter 2001. Employment for each month of the quarter and full-time/part-time split last collected in December quarter 2001.
2002	Introduction of changes to the ABS Business Register and the ABS statistical units model arising from the New Tax System. These changes did not affect the continuity of the key statistical series.

## FURTHER INFORMATION

31.31 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 24. Survey of Employment and Unemployment Patterns

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 24. Survey of Employment and Unemployment Patterns](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 15 December, 2005.**

### INTRODUCTION

24.1 The Survey of Employment and Unemployment Patterns was a longitudinal survey covering the reference period September 1994 to September 1997. Data for the survey were collected in three waves - with each wave covering a 12 month reference period.

24.2 Longitudinal surveys involve collecting data from the same respondents at intervals over an extended period of time, with the information collected on each occasion linked together to provide insights into the transitions over time.

24.3 In May 1994 the Government released a White Paper on Employment and Growth, titled 'Working Nation'. The overriding objective of Working Nation was to provide a comprehensive program to boost jobs growth, increase skill formation in the workforce, and ensure the long-term unemployed were not left behind during the economic recovery.

24.4 The central feature of the Working Nation initiatives was the 'Job Compact'. The Job Compact was targeted at the long-term unemployed, and provided individual case management and access to a range of labour market programs leading to a firm offer of a job placement for 6 to 12 months. The assessment of these initiatives was the driving force for the creation of the survey.

24.5 The objectives of the survey were to provide information on the dynamics of the labour market and to assist in the assessment of the Working Nation initiatives.

## SURVEY OUTPUT

24.6 A range of data was made available from the survey in the form of publications, unit record data, special tabulations and occasional papers. Broad estimates were published in **Australians' Employment and Unemployment Patterns, 1994 to 1997** (cat. no. 6286.0). An expanded Confidentialised Unit Record File (CURF) is available via the Remote Access Data Laboratory (RADL). For more information on this CURF, see **Technical Paper: Australians' Employment and Unemployment Patterns: Expanded Confidentialised Unit Record File, Australia, 1994 to 1997** (cat. no. 6286.0.55.002). Information on CURFS and the RADL can be found on the ABS web site, under **Services We Provide - CURFS**.

## TYPES OF VARIABLES

24.7 As part of the survey a wide range of labour market related data was collected. Variables were grouped into five categories - fixed, dynamic, episodal, occurrence, and summary.

- **Fixed variables** were data items not inherently subject to change, and were therefore only collected in the first wave. They included: sex, age, birthplace, year of arrival, employment history.
- **Dynamic variables** were subject to change over time, and were updated each year at the time of interview. They included: geographic location, housing, labour force status, current study, educational attainment.
- **Episodal variables** were collected in respect of a particular episode, defined as a particular activity or occurrence within a reference period or spanning more than one reference period. Three types of episodes were identified: episodes of labour market activity; episodes of labour market support from the then Department of Employment, Education, Training and Youth Affairs (DEETYA); and episodes of income support. See below for further details.
- **Occurrence variables** comprised periods of in-house training and external training, and employment offers.
- **Summary variables** were data items that summarised one or more episodal variables.

### Episodes of labour market activity

24.8 Episodes of labour market activity encompassed every day of the reference period and comprised periods of working, looking for work, or absence from the labour market (i.e. neither working nor looking). If a respondent had two or more jobs at the same time, each was treated as a separate episode. A change of employer constituted a new episode. An episode of working would overlap with an episode of looking for work if a respondent was working and looking for work at the same time. However, neither episodes of work nor episodes of looking for work could overlap with episodes of absence from the labour market.

### Episodes of DEETYA labour market support

24.9 Episodes of DEETYA labour market support comprised periods of registration with the then Commonwealth Employment Service (CES), case management and Labour Market Program participation. Data for these episodes were provided by DEETYA and required the respondents' consent.

### Episodes of income support

24.10 Episodes of income support comprised periods during which the respondent received income support. Data for these episodes were provided by the then Department of Social Security (DSS) and required the respondents' consent.

## LEVELS OF OUTPUT

24.11 The focus of the survey was on the selected respondent, and so detailed information at the income unit, family and household level is not available. However, because a limited amount of information was collected from the respondent about their spouse and other usual residents, some broad household and family level information is available.

## SURVEY OUTPUT

24.12 Estimates from the survey include:

Socio-demographic data	Sex, age, marital status, birthplace, year of arrival in Australia, Aboriginal or Torres Strait Islander origin, educational attainment, language use, disabilities, housing tenure, household/family structure, and geographic region.
Employment	Labour force status, trade union membership, and employment history.
Episodes of working	Start and finish date of each episode, status in employment, hours worked, permanent/casual, industry, occupation, earnings, sector, job preferences, and method of job attainment.
Episodes of looking for work	Start and finish date of each episode, whether looking for full-time or part-time work, active steps taken to find work, difficulties in finding work, mobility, and reservation wage.
Episodes of absence from the labour market	Start and finish date of each episode, availability to start work, and main activity.
Employment offers	Offers of employment, whether offer was accepted, and reasons for not accepting offer.
Training	Types of training course, time spent on course, field of course, and course outcome.

Income	Income, and sources of annual income.
Labour Market Support from DEETYA	Start and finish date of CES registration, reason ceased CES registration; type of Labour Market Programs, start and finish date of Labour Market Program, post-program outcomes; start and finish date of case management, case management outcome; and reading, writing and speaking proficiency.
Income support from DSS	Start and finish date of income support, type of income support, and amount of income support.

## THE TARGET POPULATION

24.13 The target population consisted of those people considered to be most likely to be currently eligible for labour market assistance or likely to become eligible for assistance in the near future. It was determined after consultation with government officials, labour market analysts and other users and was designed to enable the survey objectives to be met in the most efficient manner.

24.14 In broad terms, the target population comprised persons resident in private dwellings who were aged 15 to 59. Within this broad population, there were three subgroups:

- Jobseekers - comprising unemployed persons, part-time workers looking for a job with more hours, and others indicating a desire to join the labour force in the near future. The purpose of this group was to facilitate the study of differences between the outcomes of Labour Market Program participants and those of 'similar' groups not participating in the Job Compact.
- Population reference group - comprising a random sample of the population aged 15 to 59. It was included because of the need to have a reference group of the general population so that outcomes of various programs could be assessed in the context of general labour market conditions.
- Labour Market Program participants - a sample of persons who commenced a Job Compact job placement and/or commenced a training program between July 1994 and February 1995. This component of the sample was included to ensure that the initial sample included a sufficient number of Job Compact participants.

## SCOPE AND COVERAGE

### SCOPE

24.15 The scope of the survey was all persons aged 15-59 years except:

- overseas residents in Australia;
- certain diplomatic personnel of overseas governments, customarily excluded from the Census and estimated resident population counts;
- members of non-Australian defence forces (and their dependants) stationed in Australia; and
- certain remote areas in the Northern Territory and Queensland which were difficult or costly to enumerate.

24.16 The survey was conducted in urban and rural areas in all States and Territories and only included persons living in private dwellings.

### COVERAGE

24.17 For the Jobseeker and Population reference group subgroups, coverage rules were applied to ensure each person in scope was associated with only one dwelling and hence had only one chance of selection. Coverage rules were not needed for the Labour Market Program subgroup as specific people had already been identified as members of this subgroup.

## SURVEY METHODOLOGY

### PANEL ESTABLISHMENT AND DATA COLLECTION

24.18 Screening interviews were conducted between 24 April and 7 July 1995, for simplicity referred to as 'May 1995', across approximately 69,000 households. The purpose of these interviews was to identify respondents falling into the Jobseeker subgroup, and to establish the Population reference group. The screening interviews were conducted on an ARA basis. Following the identification of a target group member, personal interviews were conducted with potential respondents. Of those identified, 95% were recruited.

24.19 The Labour Market Program subgroup was not asked screening questions, as specific people had already been identified as members of this subgroup.

### COLLECTION WAVES

24.20 There were three collection waves for the survey:

- wave 1 - reference period 5 September 1994 to 3 September 1995;
- wave 2 - reference period 4 September 1995 to 1 September 1996; and
- wave 3 - reference period 2 September 1996 to 31 August 1997.

24.21 Data for each collection wave were collected over a six week period following the end of the reference period. Questions relating to episodal data required the respondent to recall for what period(s) they had been working, looking for work or absent from the labour market. To obtain occurrence data, respondents needed to recall details of training courses and job offers received in the past 12 months.

24.22 Computer Assisted Interviewing was used in the second and third waves.

## **USE OF DOCUMENTARY SOURCES (ADMINISTRATIVE DATA)**

24.23 With respondents' consent, data collected directly from them during the interview were supplemented with data about CES registration, case management and Labour Market Program participation (from DEETYA) and data about income support (from DSS). This minimised the interview time for respondents and ensured that accurate information was available about their involvement with labour market assistance programs and about their receipt of income support.

## **SAMPLE DESIGN**

24.24 A probability sample design was used. The Jobseeker and Population reference group samples were drawn from the Population Survey Master Sample and excluded special dwellings and the remote and sparsely settled stratum. The Labour Market Program participants sample was drawn from a list of such participants provided by DEETYA.

## **JOBSEEKER SUBGROUP**

24.25 The design used for the Jobseeker subgroup sample was the same as that used in the Labour Force Survey (see **Chapter 20** for more detail). However, three major adjustments were made to the sample selection methodology:

- CDs were selected in the survey sample with unequal probabilities according to the number of unemployed persons resident in the CD at the time of the 1991 Census enumeration. That is, CDs with a high proportion of resident unemployed persons in August 1991 were given a higher probability of selection in the survey sample than CDs with a low proportion of unemployed persons. The weighting scheme for the Jobseeker subgroup accounted for the unequal probability sampling scheme.
- More dwellings than usual were selected in the survey sample to be screened for Jobseekers - roughly twice as many dwellings as are in the Labour Force Survey.
- The sample was designed to be more geographically clustered than the Labour Force Survey. Such clustering produces a substantial saving in survey field costs for a small loss of sample efficiency.

24.26 For the Jobseeker subgroup, all persons aged 15 to 59 years in selected dwellings were 'screened' to determine whether or not they were a 'Jobseeker'. Only Jobseekers were recruited to the Jobseeker subgroup.

## **LABOUR MARKET PROGRAM PARTICIPANTS**

24.27 The sample methodology for this subgroup was that of a list-based probability sample. DEETYA provided the ABS with a list of eligible persons. In order to produce a more efficient sample, the list was stratified into homogenous (similar) groups (strata) and then a random sample was selected from each group. The stratification variables used were: State of usual residence, length of unemployment, and job placement/training status. In total 2,300 people were selected. This number allowed for various types of sample loss, such as persons refusing to allow DEETYA to pass their name to the ABS, incorrect addresses, and overlap with the Labour Force Survey sample.

24.28 Procedures were put in place to ensure that the probability sample chosen for this subgroup was in some sense geographically close to the Jobseeker subgroup and the Population reference group (see below), but not overlapping these subgroups, nor overlapping the Labour Force Survey or any other ABS household survey.

## **POPULATION REFERENCE GROUP**

24.29 A random subsample of the dwellings selected for screening in the Jobseeker sample was selected in the Population reference group dwelling sample. From each dwelling in the Population reference group sample, a randomly selected in-scope person was selected in the Population reference group, if such a person existed (some dwellings selected in the Population reference group dwelling sample did not contain any persons in the population of interest).

24.30 It is worth noting that, using this sampling methodology, it was possible for a person to be selected both in the Jobseeker subgroup and the Population reference group.

## **PANEL SIZE AND MAINTENANCE**

24.31 The ability to maintain contact with a relatively high proportion of the panel was critical to the usefulness of the survey data. A number of strategies were put in place to help the ABS stay in contact with respondents between interviews. These included: 'change of details' cards for respondents to advise a new address, etc.; a toll-free telephone number for the respondent to call; asking the respondent for contact details of up to three people who were likely to know the respondent's whereabouts; and regular mail contact throughout the survey. However, it was inevitable that some non-response would occur when people were unwilling or unable to cooperate, or when they could not be contacted.

24.32 The attrition rate is the percentage of previous wave respondents who did not respond in the current wave. Attrition between waves caused a permanent drop in the sample size as the survey did not replace non-respondents. Although the weighting procedure for each wave partly corrected for attrition in the sample, there are some small differences in estimates between publications for each wave. Analysis of the attrition shows that higher than average sample loss occurred for males, young people, and people who were renting accommodation. Table 24.1 shows the size and composition of the panel at waves 1, 2 and 3, and the overall attrition rate.

## 24.1 Composition and Size of the Panel (Persons)

Subgroup	Wave 1	Wave 2	Wave 3	Attrition rate (Wave 1 - Wave 3) (%).
Jobseekers(a)	5,488	4,779	4,261	22.3
Labour Market Program participants	1,019	888	775	23.9
Population reference group	2,311	2,120	1,983	14.2

(a) Includes some Jobseekers who were also part of the Population reference group.

## ESTIMATION METHODS

24.33 Calibration estimation techniques were used. Estimation was undertaken separately for the three components of the panel. Longitudinal weights were derived at each wave, benchmarking back to the population size/composition at the time of panel establishment. The use of longitudinal weights had the effect of always producing population estimates that related to the initial point of recruitment.

24.34 Labour Force Survey estimates (employed, unemployed and not in the labour force), were used to supplement independent demographic benchmarks (State/Territory of usual residence, part of State of usual residence, age and sex).

24.35 Aside from these 'standard' weights, it was also necessary to provide separate DSS, DEETYA and combined DSS/DEETYA weights. Although these weights produced similar estimates to the standard weights, their use was limited to analysis that used data from administrative sources. This is because these weights apply to a smaller sample; for example, the combined DEETYA and DSS weight should only be used in analysis that involves both DEETYA and DSS data.

## RELIABILITY OF THE ESTIMATES

24.36 Estimates from the survey were subject to both sampling and non-sampling error (see **Chapter 17** for more detail). The relative standard errors of survey estimates were published in each survey publication.

## DATA COMPARABILITY OVER TIME

24.37 This was a one-off survey.

## FURTHER INFORMATION

24.38 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## 21.8. Locations of Work

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.8. Locations of Work](#)

### CHAPTER 21.8 LOCATIONS OF WORK

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 3 August, 2006.**

### INTRODUCTION

21.8.1 This survey provides information about the locations in which people work (such as their own home or employer's premises) and the job characteristics and working arrangements of people who work at home. The Locations of Work Survey was first introduced in 2000, and was conducted again in 2005. This survey will be conducted again in November 2008. It replaces the Survey of Persons Employed at Home conducted in 1989, 1992 and 1995.

21.8.2 Data from the survey is relevant to a wide range of policies and programs, including trends in work performed away from the employer's workplace, working conditions, gender equity in the workforce, labour market planning and assistance (e.g. access to child care by working parents), changes in workplace arrangements, and the effects of technology. Information on locations of work is used to monitor trends in workplace locations.

21.8.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

21.8.4 Prior to 2000, data from the survey was published in **Persons Employed at Home, Australia (cat. no. 6275.0)**. In 2000, the survey was renamed **Locations of Work, Australia (cat. no. 6275.0)**. More detailed data are available upon request.

21.8.5 Data from the survey relates to employed persons aged 15 years and over with particular focus on whether or not they worked any hours at home in either their main or second job during the reference week. People who 'worked any hours at home' are further classified according to whether they 'worked only or mainly at home in their main or second job' or 'did not work only or mainly at home in either their main or second job'.

- People were defined as 'working only or mainly at home in main or second job' if they worked more hours at their own home than any other single location in their main job or in their second job.

Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

### Socio-demographic information

State or territory of usual residence, capital city/balance of state of usual residence, region of usual residence, sex, marital status, relationship in household, country of birth, year of arrival, age group and whether had child(ren) under 15 years.

### Employed persons

Full-time or part-time status, occupation, industry, status in employment, all locations of work, main location of work, number of locations of work, whether worked at home, whether had an arrangement with employer to work at home, hours actually worked, hours usually worked, whether entitled to paid holiday leave, whether entitled to paid sick leave, whether has paid leave entitlements, employment type. (Note that if the person is a multiple job holder, information is collected for both main and second job).

### Employed persons who work at least some hours at home

Hours actually worked at home in reference week, hours usually worked at home, main reason for working at home, use of information technology at home, occupation in job worked at home, industry in job worked at home and status in employment in job worked at home. (Note that if the person is a multiple job holder, information is collected in relation to job(s) in which the person works at home).

21.8.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (Employment Measures and Classifications; Employment characteristics), **Chapter 13** (Industrial Relations; Trade Union membership) and **Chapter 16** (Other Classifications used in Labour Statistics; Industry and Socio-Demographic Classifications).

## SCOPE

21.8.7 The scope of this survey is restricted to persons aged 15 years and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** (Labour Force Supplementary Surveys) also applies to this survey.

## DATA COMPARABILITY OVER TIME

21.8.8 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. The survey was redeveloped for the June 2000 collection, as a result of client requirements and a desire to better meet the statistical requirements of the ILO convention on home-based work. Changes to the survey scope and sample size mean that the standard errors for the surveys differ over time. The 2000 survey considerably expanded the scope of the survey. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** (Labour Force Survey) and are not repeated here.

### 1989

Initial survey conducted (April) - data published in **Persons Employed at Home, Australia (cat. no. 6275.0)**.

Persons employed at home defined as persons who usually worked more hours at home than elsewhere, in their main or second job. Farmers, ASCO unit groups 1401 (farmers and farm managers) and 8201 (farm hands and assistants) were excluded.

### 1992

Survey conducted (March).

### 1995

Survey conducted (September).

Sample restricted to seven-eighths of the Labour Force Survey sample.

### 2000

Survey conducted (June).

Survey redeveloped and renamed Locations of Work.

Persons living in remote and sparsely settled areas excluded from scope.

Persons employed at home redefined as people who, in the reference week, mainly or only work at home or in the home of another person (not employer's or client's home) or work at own home or in the home of another person as part of their formal working arrangements. Farmers who only or mainly worked at home were also included. Note: 'persons employed at home' as defined in the 1989, 1992 and 1995 surveys are not identifiable in the 2000 survey.

### 2005

Survey conducted (November).

Survey definition relating to 'employed persons who worked at home' redeveloped. People were defined as working 'only or mainly at home in main or second job' if they worked more hours at their own home than any other single location in their main job or in their second job.

Additional data items collected for this survey:

- hours usually worked in all jobs;
- hours usually worked at home in main/second/all job/s;
- use of information technology in job worked at home and in main/second job;
- whether entitled to paid sick/holiday leave in main/second job;
- industry in job worked at home and in second job; and
- occupation in job worked at home and in second job.

Data items no longer collected in this survey:

- time in job worked at home;
- basis of payment in job worked at home;
- main basis of payment in job worked at home;
- superannuation coverage;
- workers' compensation coverage;
- trade union membership; and
- where work is based in job in which travels.

## FURTHER INFORMATION

21.8.9 For further details contact the Labour Market Statistics Section Canberra, on (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

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[Contents >> Bibliography](#)

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[Previous Page](#)

## Chapter 32. Labour Price Index

[Contents](#) >> [Methods](#) >> [Business Collections](#) >> [Chapter 32. Labour Price Index](#)

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This page contains a link to the Labour Price Index: Concepts, Sources and Methods (cat. no. 6351.0.55.001) electronic publication which was released on 17 November, 2004. This publication contains the most up to date information about the Labour Price Index.

**Labour Price Index: Concepts, Sources and Methods** (cat. no. 6351.0.55.001)

[Previous Page](#)

[Next Page](#)

## Chapter 5. Underemployment

[Contents](#) >> [Concepts and Sources](#) >> [Chapter 5. Underemployment](#)

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.

### INTRODUCTION

5.1 A measure of underemployment supplements other measures of underutilisation of labour such as number of unemployed persons (**Chapter 6**) and number of discouraged jobseekers (**Chapter 7**). This chapter discusses the concepts and definitions underlying measures of underemployment.

### CONCEPTS AND INTERNATIONAL GUIDELINES

5.2 Two forms of underemployment are recognised in the current international standards: time-related underemployment, which reflects insufficient hours of work in relation to an alternative employment situation that a person is willing and available to engage in; and inadequate employment situations, which refers to all those in employment who want to change their work activities and/or work environment for a set of reasons chosen according to national circumstances. Such reasons might include: insufficient use of skills and experience; inadequate

income; and excessive hours. Employed persons may be simultaneously in time-related underemployment and inadequate employment situations.

5.3 Previous international standards on underemployment identified two concepts of underemployment: one reflecting an insufficient volume of work, referred to as visible underemployment; and one reflecting an insufficient use of skills and experience or low productivity, termed invisible underemployment. Visible underemployment is closely related to time-related underemployment, while invisible underemployment, as it was previously defined, is now one component of inadequate employment situations.

#### TIME-RELATED UNDEREMPLOYMENT

5.4 According to the international standard, time-related underemployment exists when the hours of work of an employed person are below a threshold, and are insufficient in relation to an alternative employment situation in which the person is willing and available to engage. Table 5.1 sets out the international definition for time-related underemployment.

#### 5.1 INTERNATIONAL DEFINITION OF TIME-RELATED UNDEREMPLOYMENT (ICLS 1998)

Persons in time-related underemployment comprise all employed persons (as defined in current international guidelines) who satisfy the following criteria:

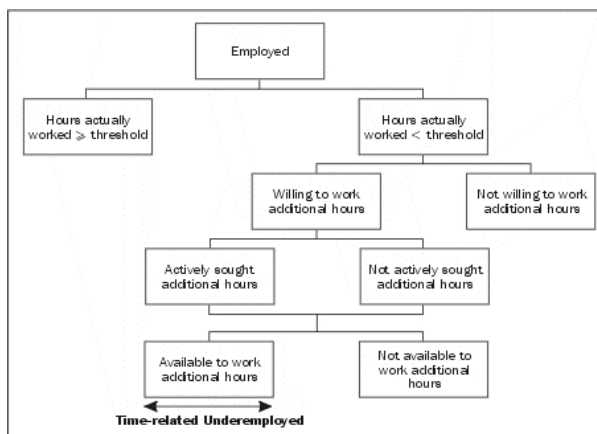
**Willing to work additional hours**, i.e. wanted another job (or jobs) in addition to their current job (or jobs) to increase their total hours of work; to replace any of their current jobs with another job (or jobs) with increased hours of work; to increase the hours of work in any of their current jobs; or a combination of the above. In order to show how 'willingness to work additional hours' is expressed in terms of action which is meaningful under national circumstances, those who have actively sought to work additional hours should be distinguished from those who have not. Actively seeking to work additional hours is to be defined according to the criteria used in the definition of active job search used for the measurement of the economically active population, also taking into account activities needed to increase the hours of work in the current job.

**Available to work additional hours**, i.e. are ready, within a specified subsequent period, to work additional hours, given opportunities for additional work. The subsequent period to be specified when determining workers' availability to work additional hours should be chosen in light of national circumstances and comprise the period generally required for workers to leave one job in order to start another.

**Worked less than a threshold relating to working time**, i.e. persons whose 'hours actually worked' in all jobs during the reference period, as defined in current international guidelines regarding working time statistics, were below a threshold, to be chosen according to national circumstances. This threshold may be determined by e.g. the boundary between full-time and part-time employment, median values, averages, or norms for hours of work as specified in relevant legislation, collective agreements, agreements on working time arrangements or labour practices in countries.

5.5 The concepts underpinning the international definition of time-related underemployment are shown in diagram 5.2. The framework classifies persons who satisfy each of the criteria outlined above - willingness to work additional hours (note that persons actively seeking additional hours of work are distinguished from those who are not); availability to work additional hours; and worked less than a threshold relating to working time - as time-related underemployed.

#### 5.2 TIME-RELATED UNDEREMPLOYMENT: CONCEPTUAL FRAMEWORK



5.6 The current international standard also notes that:

- countries should, in addition, endeavour to identify all workers who were willing and available to work additional hours during the reference period, regardless of the hours they actually worked (i.e. including those who worked more than the threshold hours); and
- countries may want to estimate the volume of time-related underemployment by aggregating the number of days, half-days or hours that each person in time-related underemployment is willing and available to work in addition to the hours actually worked during the reference period without reference to a threshold.

#### INADEQUATE EMPLOYMENT SITUATIONS

5.7 Indicators of inadequate employment situations describe situations in the workplace which reduce the capacities and wellbeing of workers as compared to an alternative employment situation. However, as noted in the international standard, the statistical definitions and methods necessary to describe inadequate employment situations still have to be developed further. As such, the standard does not define inadequate employment situations. The international standard does, however, identify a number of inadequate employment situations for which countries may wish to consider producing separate indicators. These include:

- skill-related underemployment - persons in this form of inadequate employment include employed persons who, during the reference period, wanted or sought to change their current work situation in order to use their current occupational skills more fully, and were

available to do so;

- income-related underemployment - persons in this form of inadequate employment include employed persons who, during the reference period, wanted or sought to change their current work situation in order to increase income limited by factors such as those listed below, and were available to do so. Factors contributing to income-related underemployment include: low levels of organisation of work or productivity; insufficient tools and equipment; insufficient training; and deficient infrastructure; and
- inadequate employment related to excessive hours - situations where employed persons wanted or sought to work fewer hours than they did during the reference period, either in the same job or in another job, with a corresponding reduction of income.

## DEFINITIONS USED IN ABS SURVEYS

5.8 For practical reasons, ABS measurement of underemployment is confined to time-related underemployment. The ABS underemployment framework is based on separating employed persons into three mutually exclusive groups:

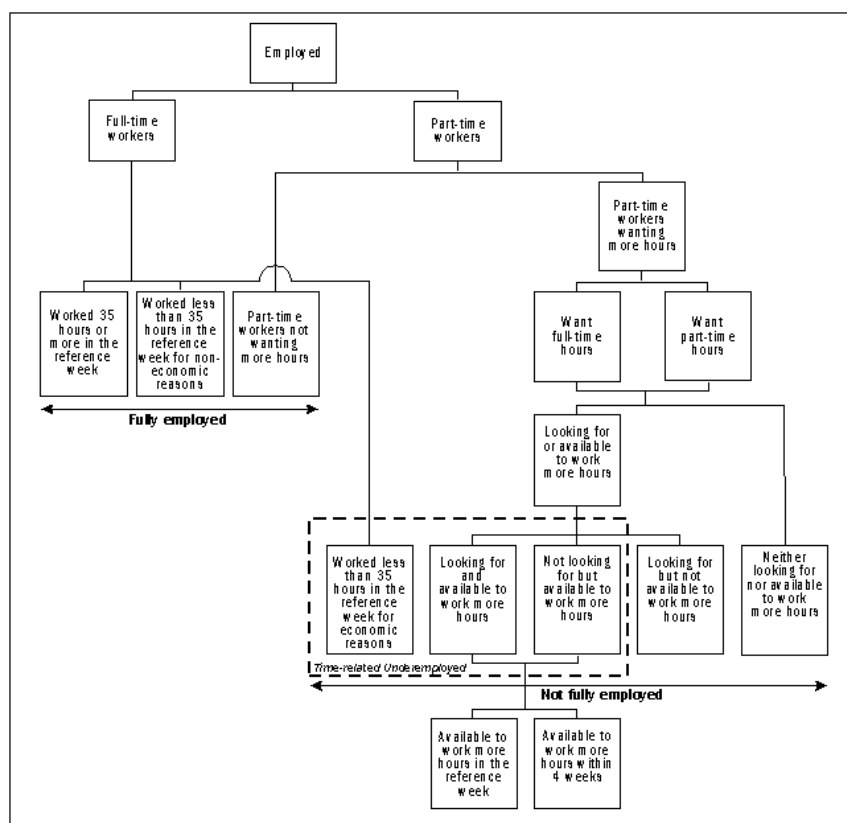
- fully employed workers;
- part-time workers who want to work more hours; and
- full-time workers who worked part-time in the reference week for economic (footnote 1) reasons.

5.9 Fully employed workers comprise: employed persons who worked full-time during the reference week (includes persons who usually work part-time); employed persons who usually work full-time but worked part-time in the reference week for non-economic (footnote 2) reasons; and part-time workers (usually work part-time and did so in the reference week (footnote 3)) who do not want to work additional hours. Full-time workers who worked part-time in the reference week for non-economic reasons are considered to be fully employed because they usually work full-time, and worked part-time in the reference week voluntarily.

5.10 Persons who are not fully employed comprise: part-time workers (usually work part-time and did so in the reference week) who want to work more hours; and full-time workers who worked part-time in the reference week for economic reasons. Time-related underemployed workers (as defined in the ILO guidelines) are a subgroup of persons 'not fully employed'.

5.11 The ABS underemployment framework further classifies persons who are not fully employed according to whether they were looking for and/or available to start work with more hours, and according to the number of additional hours sought. The framework identifies: persons wanting full-time hours; persons wanting more part-time hours; persons who looked for extra work during the four weeks prior to the survey; and persons who were available to start extra work (either in the reference week or in the four weeks subsequent to the survey). It is assumed that full-time workers who worked part-time in the reference week for economic reasons wanted to work full-time in the reference week and would have been available to do so. The ABS underemployment framework is set out in diagram 5.3.

### 5.3 ABS UNDEREMPLOYMENT FRAMEWORK



## COMPARISON OF ABS AND INTERNATIONAL DEFINITIONS

5.12 The ABS underemployment framework is consistent with the ILO concept of time-related underemployment, although the international standards do not specifically identify the group 'fully employed workers' as is the case in the ABS framework.

#### **Worked less than a threshold relating to working time**

5.13 The international definition of time-related underemployment includes a threshold relating to working time. Only persons actually working less than the threshold should be included in statistics of time-related underemployment. The international standards do not specify the threshold to be used. Instead they suggest a number of alternative approaches which may be suitable.

5.14 The threshold used in the ABS underemployment framework is based on the boundary between full-time and part-time work. Only those employed persons actually working less than 35 hours in the reference week may be further classified as not fully employed. Persons actually working less than 35 hours in the reference week include part-time workers (persons who usually work part-time and did so in the reference week), as well as some full-time workers who actually worked part-time hours in the reference week. However, only full-time workers who worked part-time in the reference week for **economic** reasons are classified as not fully employed in the ABS framework. Those who worked part-time in the reference week for non-economic reasons are assumed to be fully employed, on the basis that they usually work full-time, and that they 'voluntarily' worked part-time in the reference week (see paragraphs 5.8 to 5.10).

5.15 Outlined in paragraph 5.6 is a recommendation contained in the international standards that countries endeavour to identify all workers willing and available to work additional hours, regardless of the hours actually worked during the reference period, i.e. involving relaxation of the threshold relating to working time. The ABS collected some information on employees' preferences for additional hours of work (irrespective of how many hours usually worked) in the 2000 Survey of Employment Arrangements and Superannuation. For further information on the 2000 Survey of Employment Arrangements and Superannuation see **Chapter 23**.

#### **Willingness to work additional hours**

5.16 In the ABS framework, willingness to work additional hours is tested by asking part-time workers whether they **want** to work additional hours. However, additional information on whether respondents have **actively looked** for additional hours of work is also collected using the same active job search criteria as used for determining unemployment. This information is used to distinguish those who have actively sought to work additional hours from those who have not. This approach is also consistent with the international standards.

#### **Availability to work additional hours**

5.17 In the ABS framework, availability to work additional hours is determined both in terms of immediate availability (i.e. available in the reference week), and availability within the following four weeks. The international guidelines are not prescriptive on this issue.

#### **Volume of time-related underemployment**

5.18 As outlined in paragraph 5.6, the international standards state that countries may wish to estimate the volume of time-related underemployment. In the annual Labour Force Survey supplementary topic, Underemployed Workers (see paragraph 5.23), information is collected about usual hours worked and preferred number of extra hours, enabling estimates of the total number of additional hours wanted per week to be compiled.

### **DATA SOURCES**

5.19 Estimates of persons not fully employed are available from:

- the Labour Force Survey; and
- the supplement to the Labour Force Survey, the Underemployed Workers Survey.

### **LABOUR FORCE SURVEY**

5.20 The Labour Force Survey collects information on underemployment on a quarterly basis. The survey classifies workers according to the framework outlined above with the following restriction:

- for part-time workers wanting more hours of work, the four week reference period is not used to determine availability. Instead availability is determined using only the reference week (the week before the survey).

5.21 The criteria used in the Labour Force Survey are analogous to the criteria for determining unemployment (that is, actively looking for work and available for work in the reference week). Additional information is also available on full-time workers who usually work part-time hours including: whether want more hours of work; whether looking for more hours of work; and whether available to start more hours of work in the reference week.

5.22 For more information on the content and methodology of the Labour Force Survey, see **Chapter 20**.

### **SUPPLEMENTARY SURVEY: UNDEREMPLOYED WORKERS**

5.23 The annual Labour Force Survey supplementary topic, Underemployed Workers, is the primary ABS data source on underemployment. The survey classifies workers according to the framework outlined above, comparable with ICLS 1998 and the Labour Force Survey quarterly measure, but with a much wider range of information, for example, on the number of hours usually worked, number of preferred hours, steps taken to find work, and difficulties finding work. For more information on the content and methodology of this survey, see **Chapter 21.14**.

### **FURTHER INFORMATION**

5.24 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. Economic reasons include being stood down, or insufficient work being available. **<back**
2. Non-economic reasons include: illness or injury; leave, holiday or flextime; and personal reasons. **<back**
3. For further information on the full-time/part-time employment classification refer to **Chapter 4**. **<back**

[Previous Page](#)

[Next Page](#)

## Chapter 33. Economic Activity Survey

[Contents](#) >> [Methods](#) >> [Business Collections](#) >> [Chapter 33. Economic Activity Survey](#)

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### INTRODUCTION

33.1 The Economic Activity Survey (EAS) provides key measures on the income and expenditure of Australian industries. As part of this process, data are also collected on wages and labour costs. Estimates from the survey are used by analysts in the public and private sectors to monitor changes in the operation, structure and performance of private and public trading enterprises.

### SURVEY OUTPUT

33.2 Estimates are published annually in **Business Operations and Industry Performance, Australia, Preliminary** (cat. no. 8142.0) and **Business Operations and Industry Performance, Australia** (cat. no. 8140.0).

33.3 The main series compiled include:

- number of operating management units and employment by industry division;
- income and expenditure and balance sheet items; and
- industry averages and ratios.

33.4 Estimates can be cross classified by industry division and sub-division, and by business size.

33.5 Employment is defined in the survey as "the number of persons working for this business during the last pay period ending June" and includes: working proprietors; working partners; permanent, part-time, temporary and casual employees; managerial and executive employees; and employees absent on paid or pre-paid leave. Self employed persons are excluded. The definition of employment used in the survey is similar to that used in other ABS business surveys and excludes most self-employment jobs. See **Chapter 3** for further information on the concept of employment, and on definitions of employment used in ABS household and business surveys.

### SCOPE AND COVERAGE

33.6 The scope of the Economic Activity Survey is all employing businesses in the Australian economy except for:

- units belonging to the following ANZSIC subdivisions:
  - 81 Government Administration;
  - 82 Defence;
  - 97 Private Households Employing Staff;
- businesses classified to the General Government sector (government-owned Public Trading Enterprises are included); and
- agricultural businesses with an estimated value of agricultural operations of less than \$22,500.

33.7 Coverage of the survey varies in accordance with other specific industry collections being undertaken in the reference year. Thus, all units in Agriculture, Mining, Manufacturing, Electricity and Gas and some service industries were excluded from the Economic Activity Survey in respect of 1999-2000 to avoid duplication with other collections being undertaken in these industries for this reference year. In addition, data from the Australian Taxation Office and the Australian Prudential Regulation Authority are incorporated with directly collected data. The Australian Taxation Office data include information on non-employing businesses, details of which are not stored on the ABS Business Register.

### COLLECTION METHODOLOGY

33.8 A number of collection methods are used. Data for the units collected directly are obtained using a mail-out/mail-back collection methodology. This is supplemented by dropoff/pickup and telephone interviewing of selected units. Data are also obtained electronically from other ABS collections, and unit record data are obtained as administrative by-product data from the Australian Taxation Office and the Australian Prudential Regulation Authority.

33.9 The survey reference period is the year ending 30 June.

33.10 Businesses that do not respond by the due date are initially sent reminder letters and then followed up by telephone.

## SAMPLE DESIGN

33.11 EAS uses a single stage stratified random sample which selects a sample of Management Units (MUs) from the ABS Business Register. The sample selections are undertaken using simple random sampling without replacement. The sample is controlled for overlap with past and future selections as well as with selections in other ABS economic surveys.

33.12 The frame is stratified by industry group and employment size of the management unit, whether the unit has been included as part of the survey groups for which ATO data are used, and whether the business is incorporated or unincorporated.

## SAMPLE SIZE AND ALLOCATION

33.13 Data are collected directly from about 10,500 MUs. Data from an additional 7,500 units are collected in other ABS annual economic collections and then transferred to EAS. Data are also obtained for approximately 72,000 businesses from the ATO as a by-product of its data collection on business tax returns for the calculation of business income tax liability.

33.14 The sample design for the EAS collected units is based on achieving RSEs of 2% at the Australian level and averaging 6.5% at the sub-division level.

## SAMPLE RE-SELECTION AND ROTATION

33.15 The EAS sample is re-selected every year. Where possible, small businesses (those with less than 20 employees) are rotated out of the survey after 3 years.

## ESTIMATION

33.16 Number raised estimation is used.

33.17 Non-response is kept to a minimum by the use of intensive follow-up. Where possible, historical data are used for imputing non-responding units. Where units have not provided data previously or had not been selected in previous surveys Live Respondent Mean is used. Clerical imputation is used where only partial responses are received.

33.18 Survey outliers are treated using the 'surprise outlier' technique.

33.19 The estimation procedure includes new business provisions, which adjust estimates to allow for the time lag between businesses commencing operation and their inclusion on the ABS Business Register.

33.20 For further information on estimation methods used in ABS Business Surveys, refer to **Chapter 25**.

## RELIABILITY OF THE ESTIMATES

33.22 Estimates from the survey are subject to both sampling and non-sampling error. The relative standard errors of survey estimates are published in **Business Operations and Industry Performance, Australia** (cat. no. 8140.0).

## DATA COMPARABILITY OVER TIME

33.23 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and time series analysis methods are made as infrequently as possible. Significant changes have included:

<b>1993-94</b>	Industry classification changed from ASIC to ANZSIC.
<b>1994-95</b>	Expansion of questionnaire to collect data for Input-Output purposes.
<b>1997-98</b>	Inclusion of Tourism Satellite Accounts questions.

## FURTHER INFORMATION

33.24 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## 21.9. Multiple Job Holders

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.9. Multiple Job Holders](#)

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## INTRODUCTION

21.9.1 Information on multiple job holders has been collected on an irregular basis since 1965. Estimates from the survey are used to adjust estimates of employment from the Survey of Employment and Earnings (see **Chapter 27** for further information) for use in the Australian National Accounts.

21.9.2 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

## SURVEY OUTPUT

21.9.3 Data from the survey are no longer published, but estimates are available on request. Estimates from previous surveys have been published in **Multiple Jobholding, Australia** (cat. no. 6216.0).

21.9.4 Data from the survey relate to persons aged 15 and over. The main population of interest is employed persons (excluding contributing family workers and persons working solely for payment in kind) with more than one job who worked as an employee in at least one of their jobs. Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, birthplace and year of arrival in Australia.
Multiple job holders	Labour force characteristics of main and second job including status in employment, full-time/part-time status, hours worked, occupation, industry, weekly earnings, and whether worked in second job in the survey reference week.

21.9.5 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (employment characteristics) and **Chapter 16** (socio-demographic information and industry).

## SCOPE

21.9.6 The scope of this survey is restricted to persons aged 15 years and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## DATA COMPARABILITY OVER TIME

21.9.7 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

<b>1965</b>	Initial survey conducted (November) - data published in <b>Multiple Job Holders</b> (Statistical Bulletin 465). Survey scope - employed persons aged 14 and over. Multiple job holders were defined as employed persons holding any kind of second job (may have been working or temporarily absent from that job in the survey reference period). Note: second job excludes occupations such as professional sportsmen, part-time musicians, paid coaches and the like. Main job was defined as job in which the respondent worked most hours in the reference week.
<b>1966</b>	Survey conducted (August) - data published in <b>Multiple Job Holders</b> (Statistical Bulletin 564). Change to survey scope - employed persons aged 15 and over. Multiple job holders were defined as employed persons holding any kind of second job (may have been working or temporarily absent from that job in the survey reference period) and employed as a wage or salary earner or unpaid family helper in at least one of those jobs. Note: second job excludes occupations such as professional sportsmen, part-time musicians, paid coaches and the like.
<b>1967</b>	Survey conducted (August) - data published in <b>Multiple Job Holders</b> (Ref. no. 6.10).
<b>1971</b>	Survey conducted (May). Change to survey scope - employed persons aged 15 and over. Multiple job holders were defined as employed persons holding any kind of second job (may have been working or temporarily absent from that job in the survey reference period) and employed as a wage or salary earner in at least one of those jobs. Note: second job excludes unpaid family helpers.
<b>1973</b>	Biennial collection commenced (August). Preliminary publication introduced - <b>Multiple Job Holders, Preliminary</b> (Ref. no. 6.39).
<b>1977</b>	Catalogue numbers replaced reference numbers - cat. no. 6215.0 (preliminary data) and cat. no. 6216.0 (final data). Preliminary publication discontinued.
<b>1979</b>	Change to definition of main job - job in which the respondent <b>usually</b> works most hours in the reference week.
<b>1991</b>	Survey conducted in July (this year only).
<b>1994</b>	Sample restricted to seven-eighths of the Labour Force Survey sample. Standard Data Service replaced publication format (cat. no. changed to 6216.0.40.001).
<b>1997</b>	Survey conducted in August. Publication format replaced Standard Data Service (cat. no. changed to 6216.0). Persons living in remote and sparsely settled areas excluded from scope.

**1998** Annual collection commenced (July).  
Survey content substantially reduced.  
Publication discontinued (data available on request).

## FURTHER INFORMATION

21.9.8 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## 21.10. Persons Not In the Labour Force

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.10. Persons Not In the Labour Force](#)

### CHAPTER 21.10 PERSONS NOT IN THE LABOUR FORCE

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### INTRODUCTION

21.10.1 The Persons Not in the Labour Force (PNILF) survey was first conducted in May 1975 and then in May 1977. The survey has been conducted annually since 1988. The survey collects information about persons who are neither employed nor unemployed. Data from this survey are used to measure potential labour not reflected in employment and unemployment statistics, and in particular to measure the number and characteristics of discouraged job seekers and others marginally attached to the labour force. The policy context for the data includes labour market programs for the jobless, income support programs, retirement policies, and child care policies.

21.10.2 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

21.10.3 Data from the survey are published in **Persons Not in the Labour Force, Australia** (cat. no. 6220.0). More detailed estimates are available on request.

21.10.4 Data from the survey relate to persons aged 15 years and over. The main populations of interest are persons not in the labour force, persons marginally attached to the labour force and discouraged job seekers. Persons marginally attached to the labour force are those people who want to work and are either not actively looking for work but are available to start work within four weeks, or are actively looking for work but are not available to start in the survey reference week. Discouraged job seekers are those people who want work and are available to work within four weeks, but aren't actively looking for work because they believe they will not find a job. Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

### SOCIO-DEMOGRAPHIC INFORMATION

21.10.5 Sex, age, marital status, household/family relationship, state or territory of usual residence, birthplace, year of arrival in Australia, number of children and age of youngest child.

### PERSONS NOT IN THE LABOUR FORCE

21.10.6 Whether want to work and type of work preferred; whether looked for work in last 12 months; main activity when not in the labour force; for persons who have previously had a job, time since last job, and reason for ceasing that job; for persons who have held a job in the last 20 years, details of the job including occupation, status in employment, and full-time or part-time status; intention to enter the labour force; and main source of income.

### PERSONS MARGINALLY ATTACHED TO THE LABOUR FORCE

21.10.7 Details of whether actively looking for work and whether available for work; for persons not actively looking for work, all and main reason(s) not actively looking for work; for persons not available to start work within four weeks, main reason not available; and for persons not actively looking for work or available to start work within four weeks for childcare reasons, age of youngest child and number of children.

21.10.8 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (Employment Characteristics), **Chapter 7** (Persons Not in the Labour Force) and **Chapter 16** (Other Classifications Used in Labour Statistics).

### SCOPE

21.10.9 The scope of this survey is restricted to persons aged 15 years and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

### DATA COMPARABILITY OVER TIME

21.10.10 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

#### **1975**

Initial survey conducted (November) - preliminary data published in **Persons Not In the Labour Force, Preliminary** (ref. no. 6.54) and final data in **Persons Not In the Labour Force** (ref. no. 6.59). Survey scope - persons aged 15-64.

#### **1977**

Survey conducted (May). Catalogue numbers replaced reference numbers - cat. no. 6219.0 (preliminary data) and cat. no. 6220.0 (final data).

#### **1979**

Biannual collection commenced (March and September), some definitional changes.

#### **1980**

Change to definition of persons wanting a job - broadened to include persons available to start work within 4 weeks from the end of the reference week but not actively looking for work. Preliminary publication discontinued.

#### **1983**

Concept of marginal attachment to the labour force introduced. Improvements made to measure of discouraged job seekers. Survey scope changed - persons aged 15 years and over.

#### **1988**

Survey scope changed - persons aged 15-69.

#### **1989**

Annual collection commenced (September).

#### **1994**

Standard Data Service replaced publication format (cat. no. changed to 6220.0.40.001). Sample reduced to seven-eighths of Labour Force Survey sample.

#### **1996**

Publication format replaced Standard Data Service (cat. no. changed to 6220.0).

#### **1997**

Persons living in remote and sparsely settled parts of Australia excluded from scope of survey.

#### **2005**

Survey scope changed - persons aged 15 years and over.

### **FURTHER INFORMATION**

21.10.11 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## **21.11. Retirement and Retirement Intentions**

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> **21.11. Retirement and Retirement Intentions**

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an

ongoing basis. This chapter was updated on 15 December, 2005.

## INTRODUCTION

21.11.1 This survey collected information about the retirement and retirement intentions of persons aged 45 and over. The survey was conducted on an irregular basis between 1980 and 1997 and will not be conducted again. Data on retirement and retirement intentions are collected every two years (beginning with the 2004–05 reference period) in the Multi Purpose Household Survey.

21.11.2 Data from the survey are used to examine changes in retirement trends over time and the income arrangements retirees and potential retirees have made to provide for their retirement. Data are used primarily in the development and review of income support and superannuation policies.

21.11.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

## SURVEY OUTPUT

21.11.4 Data from the survey were published in **Retirement and Retirement Intentions, Australia** (cat. no. 6238.0).

21.11.5 Data from the survey relate to people aged 45 years and over. The main populations of interest are people who have retired from full-time work, people who have retired from the labour force, and the retirement intentions of people who are still working. Estimates are available on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, household/family relationship, state or territory of usual residence, birthplace and year of arrival in Australia.
All persons	Labour force status; and for people working, details of current job including full-time or part-time status, status in employment, occupation, and industry.
Persons who have retired from full-time work	Age at retirement from full-time work; reason for ceasing last full-time job; whether reached compulsory retirement age in last full-time job; details of last full-time job including occupation, industry, and status in employment; and time since retirement
Persons who have retired from full-time work aged 45 and over	Details of retirement scheme membership, including retirement scheme membership at retirement from full-time job, time in main retirement scheme at retirement from full-time job, previous retirement scheme membership, and time in previous retirement scheme; details of payments from retirement scheme, including type of payment from retirement scheme, and disbursement of lump sum payment from retirement scheme (and amount if retired less than four years from time of survey); and details of income, including sources of income at retirement from full-time work, current sources of income, and whether changed main source of income since retirement.
Persons who have retired from the labour force	Details of retirement from full-time work (as above); time since retirement from the labour force.
Persons who intend to retire	Details of retirement scheme membership (current and previous); expected time until retirement (from full-time work, from the labour force); expected sources of income at retirement from full-time work; whether intends to work part-time after retirement from full-time work; and intended age at retirement (from full-time work, from the labour force).

21.11.6 All data collected were compiled according to concepts and definitions outlined in **Chapter 2** (labour force status), **Chapter 4** (employment characteristics including), **Chapter 10** (retirement and retirement intentions) and **Chapter 16** (socio-demographic information and industry).

## SCOPE

21.11.7 The scope of this survey was restricted to persons aged 45 years and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## SAMPLE DESIGN

21.11.8 In addition to those sample restrictions outlined in **Chapter 21** a further one-eighth (one rotation group) of the private dwelling Labour Force Survey sample was excluded from this survey in 1997.

## DATA COMPARABILITY OVER TIME

21.11.9 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey was conducted there were some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also have affected this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

**1980** Initial survey conducted (May) - preliminary data published in **Persons Aged 50-69 Years Ceasing Full-Time Work, Australia, Preliminary** (cat. no. 6237.0) and final data in **Persons Aged 50-69 Years Ceasing Full-Time Work, Australia** (cat. no. 6238.0).  
Survey scope - persons aged 50-69.

Ceased full-time work defined as - previously worked on a full-time basis and have permanently ceased full-time labour force activity (working or looking for work).

- 1983** Survey conducted (September) - data published in **Persons Retired From Full-Time Work, Australia** (cat. no. 6238.0). Retired defined as - previously worked on a full-time basis and have permanently ceased full-time labour force activity (working or looking for work).
- 1984** Survey conducted (September) - preliminary data published in **Persons Who Intended To Retire From Full-Time Work, Australia, Preliminary** (cat. no. 6257.0) and final data in **Persons Who Intended To Retire From Full-Time Work, Australia** (cat. no. 6258.0).  
Survey scope - persons aged 45 and over.  
Information only collected about intentions to retire from full-time work.
- 1986** Survey conducted (November) - preliminary data published in **Retirement and Retirement Intentions, Australia, Preliminary** (cat. no. 6237.0) and final data in **Retirement and Retirement Intentions, Australia** (cat. no. 6238.0).  
Information collected about: intentions to retire from full-time work; and retirement from full-time work. However information was not collected from persons permanently unable to work.  
Preliminary publication discontinued.
- 1989** Survey conducted (November).
- 1992** Survey conducted (October).
- 1994** Survey conducted (November).  
Sample restricted to seven-eighths of the Labour Force Survey sample.  
Information collected from persons permanently unable to work.  
Standard Data Service replaced publication format (cat. no. changed to 6238.0.40.001).
- 1997** Sample restricted to six-eighths of the Labour Force Survey sample.  
Data on partial and full retirement collected.  
Publication format replaced Standard Data Service (cat. no. changed to 6238.0).  
Persons living in remote and sparsely settled areas excluded from scope.  
Survey vehicle changed from a supplementary survey to a topic on the Multi Purpose Household Survey.

## FURTHER INFORMATION

21.11.10 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 6. Unemployment

[Contents >> Concepts and Sources >> Chapter 6. Unemployment](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 15 September 2006.**

## INTRODUCTION

6.1 The labour force framework discussed in **Chapter 2** categorises the population into three mutually exclusive groups: employed; unemployed; and not in the labour force. This chapter discusses in detail the concept of unemployment, and contrasts the measures of unemployment collected in the Labour Force Survey with those collected elsewhere. The chapter also discusses a range of classifications and measures that are related to unemployment.

## CONCEPTS AND INTERNATIONAL GUIDELINES

6.2 The international definition of unemployment (**Thirteenth International Conference of Labour Statisticians 1982**) requires the simultaneous satisfaction of the following criteria:

- without work
- actively seeking work
- currently available for work.

6.3 Unemployed people are therefore defined as people who, during a specified reference period, meet all of the above criteria. In surveys applying the international standards, the active job search criterion is waived for people waiting to start a new job that they have already obtained.

## WITHOUT WORK

6.4 The purpose of the 'without work' criterion is to ensure that employment and unemployment are mutually exclusive. As precedence is given to employment, a person should only be classified as unemployed if they do not satisfy the criteria for employment. The 'without work' criterion refers to a total lack of work, that is, not in paid employment or self-employment, as defined in international standards for employment (refer to **Chapter 3**). People who are 'without work' should not have undertaken any work at all (not even for one hour) during

the reference period, nor should they have been temporarily absent from a job to which they have a formal attachment.

6.5 There are other measures of labour underutilisation available to supplement the measures related to unemployment. See **Chapter 5** for information on underemployment.

## ACTIVELY SEEKING WORK

6.6 The 'actively seeking work' criterion requires that at least one active step to seek work (in either paid employment or self-employment) must be taken in the reference period. Active steps to seek employment include: "registration at a public or private employment exchange; application to employers; checking worksites, farms, factory gates, market or other assembly places; placing or answering newspaper advertisements; seeking assistance of friends or relatives; looking for land, building, machinery, or equipment to establish own enterprise; arranging for financial resources; applying for permits and licences, etc." (**Thirteenth International Conference of Labour Statisticians 1982**). According to the definition, the job search period may be extended into the period prior to the basic reference period for the collection. The purpose of extending the job search period in this way is to take account of time lags which often follow initial steps to obtain work, and during which jobseekers may not take any other initiatives to find work (e.g. while waiting for outcomes of job applications). A four week reference period is suggested in the guidelines as the practical maximum for a monthly survey.

6.7 The international guidelines note that to be considered as undertaking an active job search:

- a person must have done something specific to obtain work before being classified as 'seeking work'
- a general declaration of being in search of work is not sufficient.

6.8 The active job search criterion is waived for people waiting to start a new job that they have already obtained and that is to begin after the end of the reference period (these people are referred to as future starters (**footnote 1**). According to the international standards, future starters need only meet the 'without work' and 'available for work' criteria. The active search criterion is waived because, having already secured employment, people waiting to take up a job may not feel the need to look for work. The international guidelines consider that this group should be treated as unemployed rather than employed because, since they are available to start work, such people would presumably have started work had the job begun earlier and, as such, this group forms part of currently underutilised labour resources.

6.9 The international guidelines suggest that countries develop classifications of people not in the labour force according to the relative strength of their attachment to the labour market. People with marginal attachment include those people who are not in the labour force, wanted to work and were not actively looking for work but were available to start work within four weeks from the end of the reference period. See **Chapter 7** for more information about marginal attachment.

## CURRENTLY AVAILABLE FOR WORK

6.10 The availability criterion is a test of readiness to start work, to help ensure that a valid stock measure of the labour supply is produced. In order to be classified as unemployed, people must be available to start work in the reference period. People not available to start work in the reference period (for example, because of impediments to taking up work such as family responsibilities, illness, etc.) should be excluded from estimates of unemployment. While the international standards recommend that the reference period for the availability criterion be the same as the basic reference period for the collection, the standards recognise that many countries prefer to extend the time period. Reasons for choosing a longer reference period include: the fact that not everyone who is seeking work can be expected to take up a job immediately when one is offered; and the fact that there are some forms of employment where workers are employed on a pay period basis and have to wait until a new pay period starts before taking up work.

6.11 The international guidelines suggest that countries develop classifications of people not in the labour force according to the relative strength of their attachment to the labour market. People with marginal attachment include those people who are not in the labour force, wanted to work and had actively looked for work (in the four weeks up to the end of the survey reference week) but did not meet the availability criterion to be classified as unemployed. See **Chapter 7** for more information about marginal attachment.

## DEFINITIONS USED IN ABS SURVEYS

6.12 The ABS produces estimates of unemployment from most household surveys. The Labour Force Survey is designed to produce precise estimates of unemployment (and employment), and the definition used aligns closely with the international definitions outlined above. In other household surveys where unemployment is an explanatory or classificatory variable the definition of unemployment is less precise than that used in the Labour Force Survey.

## LABOUR FORCE SURVEY

6.13 Unemployed persons are defined as all persons 15 years of age and over who were not employed during the reference week, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

6.14 'Actively looking for work' encompasses a range of formal and informal job search activities and includes: writing, telephoning or applying in person to an employer for work; answering an advertisement for a job; checking workplace noticeboards or the touchscreens at Centrelink offices; being registered as a job seeker with Centrelink; being registered with a Job Network agency or any other employment agency; advertising or tendering for work; and contacting friends or relatives. People actively looking for self-employment jobs (such as looking for a business or to purchase a lease) are also treated as looking for work.

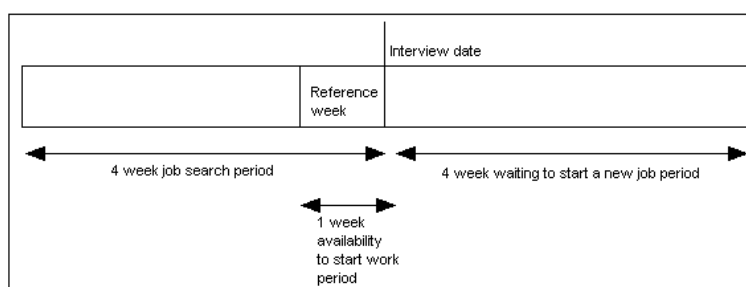
6.15 People who only looked in newspapers or read job advertisements are seen as passively, rather than actively, looking for work and so are not considered unemployed. The ABS view is that 'only looked in newspapers' does not meet the active search criterion, nor does simply looking at job advertisements on the Internet. It is impossible to obtain work by looking at a job advertisement without some additional,

active, job search step (for example, contacting the employer).

6.16 Future starters are those people who were not employed during the reference week, were waiting to start a job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then. Under International Labour Organisation (ILO) guidelines, future starters do not have to be actively looking for work in order to be classified as unemployed (see paragraph 6.8). Until February 2004, the Labour Force Survey definition of unemployed only included the subset of future starters who had actively looked for work in the four weeks to the end of the reference week. Hence, the Labour Force Survey treatment of future starters was not fully consistent with the ILO standards because the precondition of active job search was not waived, so that some future starters were defined as 'not in the labour force'. From February 2004, future starters who had not actively looked for work are classified as unemployed in the Labour Force Survey. Labour Force Survey estimates were revised back to April 2001 to reflect this change. This revision creates a small trend break at April 2001 in unemployed persons and unemployment rate series. For further information on this change, see pages 11 and 12 of **Information Paper: Forthcoming Changes to Labour Force Statistics, 2003**.

6.17 Different reference periods apply for defining not employed, availability to start work, job search, and waiting to start a new job. These are summarised in diagram 6.1. The short, one week reference period ('reference week') is used in defining those 'not employed', and in determining their availability for work, in accordance with the international guidelines. For active job search, a longer (four week) period that includes the reference week is applied. For future starters, a period of four weeks is used for the waiting period beyond the reference week in which the job will commence.

## 6.1 REFERENCE PERIODS USED IN THE LABOUR FORCE SURVEY FOR DETERMINING UNEMPLOYMENT



## OTHER ABS HOUSEHOLD SURVEYS

6.18 To produce unemployment estimates, most other ABS household surveys use one of the two alternative questionnaire modules: the reduced questionnaire module (used for personal interviews); or the self-enumerated questionnaire module. As discussed above, unemployment is defined less precisely in these modules than in the Labour Force Survey.

6.19 Most Special Social Surveys use the reduced questionnaire module for personal interviews. Unemployment in this module is defined as people aged 15 years and over who were not employed during the reference week, but who had actively looked for work and were available to start work. Compared with estimates of unemployment from the Labour Force Survey, the reduced questionnaire module for personal interviews results in lower estimates of unemployment. This arises from the simplified treatment of certain categories of people:

- the reduced questionnaire module for personal interviews does not ask respondents about the reasons they did not actively look for work. Therefore, the reduced questionnaire module does not identify those 'future starters' who had not actively looked for work (see paragraph 6.16). When the reduced questionnaire module is used, these 'future starters' are classified as not in the labour force rather than as unemployed (about 3% of unemployed); and
- in the Labour Force Survey, people on workers' compensation 'last week' and not returning (or who do not know if they will be returning) to work, and people away from work for four weeks or more without pay, are classified as either unemployed or not in the labour force. Where the reduced questionnaire module is used, all people absent from work, but who usually work one hour or more a week, are classified as employed (about 0.8% of employed).

6.20 The self-enumerated questionnaire module used in the Census of Population and Housing also produces different estimates of unemployment when compared to the Labour Force Survey. Some differences result from the shortened set of questions, which cannot determine unemployment as precisely as the Labour Force Survey. Other differences result from the self-enumeration nature of the questions and the inevitable differences in interpretation among respondents. As a result, estimates of unemployment from the self-enumerated questionnaire module are best used as explanatory or classificatory variables to explain other phenomena, rather than for detailed analysis of the labour force itself.

## DATA SOURCES

6.21 Unemployment estimates are available from:

- the Labour Force Survey
- Job Search Experience Survey
- the Census of Population and Housing
- Special Social Surveys.

## LABOUR FORCE SURVEY

6.22 The Labour Force Survey is the official source of Australian employment and unemployment statistics. The definition of unemployment used in the Labour Force Survey is outlined above. The Labour Force Survey uses a comprehensive and detailed set of questions to precisely measure the numbers and selected characteristics of people in employment and unemployment as well as people who are not currently economically active. Estimates from the Labour Force Survey are available by state/territory, capital city/rest of state, and for 77 Labour Force Survey regions. (For more information on Labour Force Survey regions see the article **Labour Force Survey regions**,

published in the July 2004 issue of **Australian Labour Market Statistics** (6105.0).) **Chapter 16**. (paragraphs 16.34-16.48) provides more information on geographic classifications available from ABS household surveys. For more detail on the content and methodology of the Labour Force Survey see **Chapter 20**.

## **JOB SEARCH EXPERIENCE SURVEY**

6.23 The Job Search Experience Survey is one of a number of surveys that supplement the Labour Force Survey. The Job Search Experience Survey collects details on the steps unemployed people have taken to find work, and the barriers encountered in finding work. See **Chapter 21.17** for information about this survey.

6.24 The definition of unemployment used in the Job Search Experience Survey is the same as the definition used in the Labour Force Survey, but there are some differences in scope between the Job Search Experience Survey (and other supplementary topics) and the Labour Force Survey. Students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for people with disabilities), and inmates of prisons are excluded from the Job Search Experience Survey, but are included in the Labour Force Survey. The Job Search Experience Survey also excludes people living in very remote parts of Australia who would otherwise have been within the scope of the survey.

## **CENSUS OF POPULATION AND HOUSING**

6.25 As discussed in paragraph 6.20, the Census of Population and Housing uses the self-enumerated questionnaire module to produce unemployment estimates that are consistent with the international standards. However, because the self-enumerated questionnaire module defines unemployment less precisely than the Labour Force Survey, the estimates produced are not strictly comparable with those from the Labour Force Survey. For this reason, unemployment estimates from the Census should be used with caution in analyses where labour force activities are a major focus. When comparing estimates of unemployment from the Census of Population and Housing with those produced from the Labour Force Survey, users should also note differences between the two surveys in scope (for example, the inclusion of permanent defence forces in Census employment data) and methodology. Estimates from the Census are available down to the statistical local area level (**footnote 2**). See **Chapter 19** for more information on the Census of Population and Housing.

## **SPECIAL SOCIAL SURVEYS**

6.26 As discussed in paragraph 6.19, the Special Social Surveys generally use the reduced questionnaire module to produce unemployment estimates consistent with the international standards. However, because the reduced questionnaire module defines unemployment less precisely than the Labour Force Survey, estimates produced are not strictly comparable with those from the Labour Force Survey. When comparing estimates from the Special Social Surveys with those from the Labour Force Survey, users should also note differences in scope and methodologies across the collections.

6.27 The labour-related Special Social Surveys, namely the Survey of Employment Arrangements and Superannuation (**Chapter 23**) and the Survey of Employment and Unemployment Patterns (**Chapter 24**), both produced estimates of unemployment. Unlike most Special Social Surveys, neither of these surveys used the reduced questionnaire module to produce measures of unemployment as described above. Instead, both surveys used the full set of questions asked in the Labour Force Survey.

## **MEASURES OF UNEMPLOYMENT**

### **UNEMPLOYMENT RATE**

6.28 The unemployment rate for any group is defined as the number of unemployed people expressed as a percentage of the labour force (employed plus unemployed). As a measure of the proportion of the labour force that is underutilised, its most important use is as an indicator of the performance of the economy. A high rate of unemployment indicates limited employment opportunities in a labour market that is oversupplied. A low rate of unemployment indicates a tight labour market, potential scarcity of skilled labour, and future cost pressures from wage demands from workers.

6.29 The trend over time in the overall unemployment rate serves as an indicator of the performance of the economy, while the unemployment rate for different groups of people (e.g. younger people, older people, women) identifies areas of social concern when rates for some groups are much higher than for others.

### **DURATION OF UNEMPLOYMENT**

6.30 Conceptually, duration of unemployment is the period of time during which an unemployed person has been in a continuous state of unemployment. To measure this period accurately would require that all three criteria for defining an unemployed person be satisfied continuously and simultaneously over the whole period (i.e. without paid work, actively looking for work and available to commence work). However, it is impractical to apply all three criteria to past periods in a household survey because of the lengthy and complex questioning needed to test for the criteria, and the memory recall difficulties of respondents. For this reason, in practice the measurement of duration of unemployment focuses on the period of time that a person has been without paid work, and has been looking for work.

6.31 Duration of unemployment is defined as the elapsed period to the end of the reference week since the time a currently unemployed person began looking for work, or since a person last worked for two weeks or more, whichever is the shorter. Brief periods of work (of less than two weeks) since the person began looking for work are disregarded.

## **FURTHER INFORMATION**

6.32 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## **FOOTNOTES**

1. The international guidelines make no recommendation about the length of the waiting period that should be applied to people waiting to start a new job that they have already obtained and that is to begin after the end of the reference period. However, the guidelines do recognise that a period of four weeks offers greater precision than an unspecified period. **<back**
2. Statistical local areas (SLAs) consist of one or more Census collection districts. In aggregate, SLAs cover the whole of Australia without gaps or overlaps. An SLA consists of a single local government area, or part thereof, or any unincorporated area. For further information see paragraphs 15.35-15.42 in **Chapter 16**. **<back**

[Previous Page](#)

[Next Page](#)

## 21.12. Retrenchment and Redundancy

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> 21.12. Retrenchment and Redundancy

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 14 November, 2005.**

### INTRODUCTION

21.12.1 This survey was first conducted in July 1997 and again in July 2001. It collected information on the labour force status and other characteristics of people who had been retrenched or made redundant in the three year period prior to 30 June in the survey year. The ABS does not plan to conduct this survey again. Information on this topic is also available from the two-yearly Labour Mobility Survey (see **chapter 21.7**).

21.12.2 Results from the Retrenchment and Redundancy survey provide information on the employment consequences of structural change in the economy, and are used for policy development and planning of services to workers who have been retrenched or made redundant.

21.12.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

21.12.4 Data from the survey were published in **Retrenchment and Redundancy, Australia** (cat. no. 6266.0). More detailed data are available on request.

21.12.5 Data from the survey relate to people aged 18 to 64. The main population of interest was people who had been retrenched or made redundant in the three years to 30 June in the survey year. Estimates are available on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, educational attainment, birthplace and year of arrival in Australia.
People who had held a job in the three years prior to 30 June	Current labour force status, number of times retrenched in three years prior to 30 June.
People who had been retrenched in the three years prior to 30 June	Details of job most recently retrenched from including occupation, industry, full-time or part-time status, permanent or casual status, sector, and duration of employment; details of the retrenchment including reasons for retrenchment and whether given notice; and details of advice sought after retrenchment including agencies visited, assistance provided; whether attending an educational institution; and current labour force status.
People who had been retrenched in the three years prior to 30 June and currently employed	Details of main job including occupation, industry, full-time or part-time status, sector, permanent or casual status; and differences between current job and job retrenched from including whether changed occupation, whether changed industry, and whether changed full-time or part-time status.
People who had been retrenched in the three years prior to 30 June and currently unemployed	Type of work sought (full-time or part-time), duration of current period of unemployment, active steps to find work, whether would move if offered a suitable job, difficulties experienced finding work, offers of employment, number of spells of looking for work, and total time spent looking for work in previous 12 months.

21.12.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 2** (Currently economically active population), **Chapter 3** (Employment), **Chapter 4** (Employment measures and classifications), **Chapter 6** (Unemployment) and **Chapter 16** (Other classifications used in labour statistics).

### SCOPE

21.12.7 The scope of this survey was restricted to people aged 18 to 64 years. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

### COMPARISON WITH LABOUR MOBILITY SURVEY

21.12.8 There are two Labour Force Supplementary surveys which collect information about the number of people retrenched from their job: Retrenchment and Redundancy and Labour Mobility. Although both surveys present information on retrenched people, there are important differences in methodology which limit comparability of data. The differences include:

Scope	The Retrenchment and Redundancy survey collected information from people aged 18-64 years. The Labour Mobility survey collects information from people aged 15-69 years.
Reference period	The Retrenchment and Redundancy survey provided estimates of the number of people retrenched in the three years prior to the survey. The Labour Mobility survey provides estimates the number of people retrenched in the year prior to the survey.
Type of information collected	<p>The Retrenchment and Redundancy survey collected data on the number of people retrenched, characteristics of the retrenchment such as why they were retrenched and how much notice they were given, information about the job they were retrenched from and their current status in the labour force. The survey measured the number of people retrenched during the reference period rather than the total number of retrenchments (for people retrenched more than once during the reference period, details of the most recent retrenchment were collected).</p> <p>The Labour Mobility Survey collects information about employment changes of people during the reference period. Data is collected on the number of retrenchments in the process of asking why a job ceased.</p>

21.12.9 An issue which affects the data quality is how well respondents are able to remember details of the period they are being asked about. The ABS has not conducted any studies to try to assess the extent of any recall bias in the Retrenchment and Redundancy Survey. However recall bias is a well-known phenomenon in surveys of this nature, and the relative bias tends to increase as the length of the recall period increases. As the recall period in the Retrenchment and Redundancy Survey is three years (compared with one year for the Labour Mobility Survey), it is possible that there is more recall bias in the Retrenchment and Redundancy than in the Labour Mobility Survey. The nature of recall bias includes the failure to recall events (particularly the less significant ones), and the tendency to recall events as being more recent than they actually were.

21.12.10 The Labour Mobility survey is a better source of time series data, since it provides a consistent time series going back over 20 years, whereas the Retrenchment and Redundancy Survey was only conducted twice (in 1997 and 2001).

## DATA COMPARABILITY OVER TIME

21.12.11 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey was conducted there were some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the changes in scope is considered to have been small. Changes affecting the Labour Force Survey may also have affected this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

## FURTHER INFORMATION

21.12.12 For further details contact the **Labour Market Statistics Section**, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## 21.13. Successful and Unsuccessful Job Search Experience

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.13. Successful and Unsuccessful Job Search Experience](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 26 August, 2004.**

### INTRODUCTION

21.13.1 This survey collected information about the job search experience of job seekers. It provided information on the ways people look for jobs, and particularly on the methods which prove ultimately to be successful. First conducted in 1982, the survey was conducted biennially in July until 2000. From July 2002, the survey was combined with the annual survey of Job Search Experience of Unemployed Persons (see **Chapter 21.4**), forming the annual survey of Job Search Experience (see **Chapter 21.17**). Data from the survey were used in formulating policies in areas such as labour market assistance, and control and review mechanisms for unemployment benefit payments.

21.13.2 This section describes only those aspects of the methodology that were unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

21.13.3 Data from the survey were published in **Successful and Unsuccessful Job Search Experience, Australia** (cat. no. 6245.0). More detailed data are available on request.

21.13.4 The main population of interest in the survey was persons who had started or looked for a job during the 12 months prior to the survey date. Only jobs paid by wages or salary were included. Persons who started a new job with the same employer were excluded. Estimates included:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, educational attainment, birthplace and year of arrival in Australia.
Data on successful job seekers	Selected labour force characteristics, number of jobs started in the previous 12 months, method of job attainment, whether out of work before commencing a job, duration of job search, preferred occupation, and role of Centrelink or CES in job attainment.

Data on unsuccessful job seekers      Steps taken to find work, type of work looking for (occupation, full-time or part-time work), duration looking for work, and number of spells looking for work.

21.13.5 All data collected were compiled according to concepts and definitions outlined in: **Chapter 2** (labour force status), **Chapter 3** (employment), **Chapter 4** (employment characteristics), **Chapter 6** (unemployment) and **Chapter 16** (socio-demographic information).

## SCOPE

21.13.6 The scope of this survey was restricted to persons aged 15 and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also applied to this survey.

## DATA COMPARABILITY OVER TIME

21.13.7 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods were made as infrequently as possible. Over the time the survey was conducted there were some changes to the scope and sample size. These changes mean that the standard errors for the survey differed over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also have affected this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

- |             |  |
|-------------|--|
| <b>1982</b> | Initial survey conducted (July) - preliminary data published in <b>Methods of Obtaining Jobs, Australia, Preliminary</b> (cat. no. 6244.0) and final data in <b>Methods of Obtaining Jobs, Australia</b> (cat. no. 6245.0).<br>Survey scope - persons aged 15 and over except those still attending school.<br>Data were from persons who started a wage or salary job over the six months to July 1982.                       |
| <b>1986</b> | Survey conducted (June) - preliminary data published in <b>Successful and Unsuccessful Job Search Experience, Australia, Preliminary</b> (cat. no. 6244.0) and final data in <b>Successful and Unsuccessful Job Search Experience, Australia</b> (cat. no. 6245.0).<br>Data were collected from persons who looked for, or started, a wage or salary job over the previous 12 months.<br>Preliminary publication discontinued. |
| <b>1990</b> | Biennial collection commenced (July).<br>Survey scope - all persons aged 15 and over.  |
| <b>1994</b> | Sample restricted to seven-eighths of the Labour Force Survey sample.  |
| <b>1998</b> | Persons living in remote and sparsely settled areas excluded from scope.<br>Additional questions on active steps to find work, and on role of CES/Centrelink in job attainment, revised to reflect changes in the employment services market.  |
| <b>2000</b> | Final survey. Replaced by Job Search Experience Survey from July 2002.   |

## FURTHER INFORMATION

21.13.8 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 7. Not In the Labour Force

[Contents >> Concepts and Sources >> Chapter 7. Not In the Labour Force](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 15 December, 2005.**

## INTRODUCTION

7.1 The labour force framework discussed in **Chapter 2** categorises the population into three mutually exclusive groups: employed; unemployed; and not in the labour force. This chapter discusses the concept 'not in the labour force'. It follows on from the discussion on employment (**Chapter 3**) and unemployment (**Chapter 6**) and concludes the discussion on the currently economically active population.

## CONCEPTS AND INTERNATIONAL GUIDELINES

7.2 According to the international standards (**Thirteenth International Conference of Labour Statisticians 1982**), the population not currently economically active (that is, not in the labour force) comprises all people not currently employed or unemployed, irrespective of age. Theoretically, then, those not in the labour force include people below the age specified for measuring the economically active population and older people who have retired from the workforce. The standards recognise that, for analytical purposes, the economically active population may be related to the total population to derive a crude participation rate or, more appropriately, to the population above the age prescribed for the measurement of the economically active population. In practice, many countries restrict the population scope of household surveys, and provide separately sourced estimates for those below the age limit when a total population estimate or a crude participation rate is required (e.g. for international reporting).

7.3 Not all people who are classified as not in the labour force are voluntarily inactive; some want to work but are classified as not in the labour force because they do not satisfy the criteria for unemployment (active job search and availability to start work - see **Chapter 6** for further discussion).

7.4 The international guidelines (**Thirteenth International Conference of Labour Statisticians 1982**) recommend that people not in the labour force may be classified by reasons for inactivity, which are listed as:

- attendance at educational institutions;
- engagement in household duties;
- retirement or old age; and
- other reasons such as infirmity or disablement.

## MARGINAL ATTACHMENT TO THE LABOUR FORCE

7.5 The international guidelines (**Thirteenth International Conference of Labour Statisticians 1982**) suggest that, where the standard definition of employment is used, countries develop classifications of people not in the labour force according to the relative strength of attachment to the labour market. The International Labour Organisation, in its manual **Surveys of Economically Active Population, Employment, Unemployment and Underemployment**, states that people marginally attached to the labour force are those not economically active under the standard definitions of employment and unemployment, but who, following a change in one of the standard definitions (of employment or unemployment), would be reclassified as economically active.

### Discouraged workers

7.6 The guidelines recognise that, though not precise in concept (nor defined in the international guidelines), the term 'discouraged workers' generally refers to people who want a job and are currently available for work but have given up any active job search because they believe they cannot find a job.

## DEFINITIONS USED IN ABS SURVEYS

7.7 The ABS produces estimates of persons not in the labour force in a number of household surveys. The definition used is consistent with the concepts outlined above except for people younger than 15 years who are generally excluded from ABS measures of labour force status. Persons not in the labour force are therefore generally defined in ABS household collections as 'persons aged 15 years and over who were neither employed nor unemployed'. Those not in the labour force include people who were:

- keeping house (unpaid)
- retired
- only in education (students)
- not working and not wanting to work (voluntarily inactive)
- permanently unable to work
- in institutions (hospitals, jails, sanatoriums, etc.)
- members of contemplative religious orders
- only undertaking unpaid voluntary work for a charitable organisation.

7.8 Estimates of persons not in the labour force vary across different household surveys because of differences in the definitions of employment and unemployment used in these surveys. As discussed in preceding chapters, the Labour Force Survey is designed to produce precise estimates of employment, unemployment and not in the labour force, and definitions used align closely with international standards. In other household surveys, it is generally not practical to define employment and unemployment as precisely as in the Labour Force Survey. Two alternative questionnaire modules are used to collect measures of employment, unemployment and persons not in the labour force in these surveys: the reduced questionnaire module (for use in personal interview) and the self-enumerated questionnaire module.

7.9 Estimates of persons not in the labour force produced from the reduced questionnaire module (used in most Special Social Surveys) are higher than those produced from the Labour Force Survey. This is due to differences in the treatment of certain categories of people:

- the reduced questionnaire module for personal interviews does not ask respondents about the reasons they did not actively look for work. Therefore, the reduced questionnaire module does not identify 'future starters'. Future starters are people who were not employed during the reference week, were waiting to start a job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then. Using the reduced questionnaire module such people are classified as not in the labour force rather than as unemployed (about 3% of unemployed); and
- in the Labour Force Survey, people on workers' compensation 'last' week and not returning or 'don't know if returning' to work, and people away from work for four weeks or more without pay, are classified as either unemployed or not in the labour force. Using the reduced questionnaire module, all people absent from work, but who usually work one hour or more a week, are classified as employed (about 0.8% of employed).

7.10 The self-enumerated questionnaire module (used in the Census of Population and Housing) also produces different estimates of persons not in the labour force when compared to the Labour Force Survey. Some differences result from the shortened set of questions, which cannot determine labour force status as precisely as the Labour Force Survey. Other differences result from the self-enumeration nature of the questions and the inevitable differences in interpretation across respondents. As a result, estimates of persons not in the labour force from the self-enumerated questionnaire module are best used as explanatory or classificatory variables to explain other phenomena, rather than for detailed analysis of the labour force itself.

## MARGINAL ATTACHMENT TO THE LABOUR FORCE, DISCOURAGED JOB SEEKERS

7.11 Measures of persons marginally attached to the labour force and discouraged job seekers are collected by the ABS annually in a supplementary survey to the Labour Force Survey, the Persons Not In the Labour Force Survey. Definitions used in this survey are outlined below.

### Marginal attachment

7.12 People with marginal attachment to the labour force comprise those people who are not in the labour force, who wanted to work, and:

- had actively looked for work (in the four weeks up to the end of the survey reference week) but did not meet the availability criterion to be classified as unemployed; or
- were not actively looking for work but were available to start work within four weeks (from the end of the reference week) or could start work (within four weeks from the end of the reference week) if child care was available.

7.13 This definition is consistent with that suggested by the international guidelines, and involves relaxing the criteria used to determine unemployment in the Labour Force Survey as follows:

- people meeting the first set of criteria above (wanting to work, actively looking for work, not available to start work) would have been classified as unemployed if the unemployment criterion 'currently available for work' had been waived;
- people meeting the second set of criteria above (wanting to work, not actively looking for work, available to start within four weeks) would have been classified as unemployed if the unemployment criterion 'active job search' had been waived and the criterion 'currently available for work' had been relaxed to include the next four weeks. The circumstances that would permit people to start a job are likely to differ between people in the labour force and those not in the labour force. Accordingly a reference period of four weeks for the availability criterion is adopted, rather than current availability, as for the unemployed.

### Discouraged job seekers

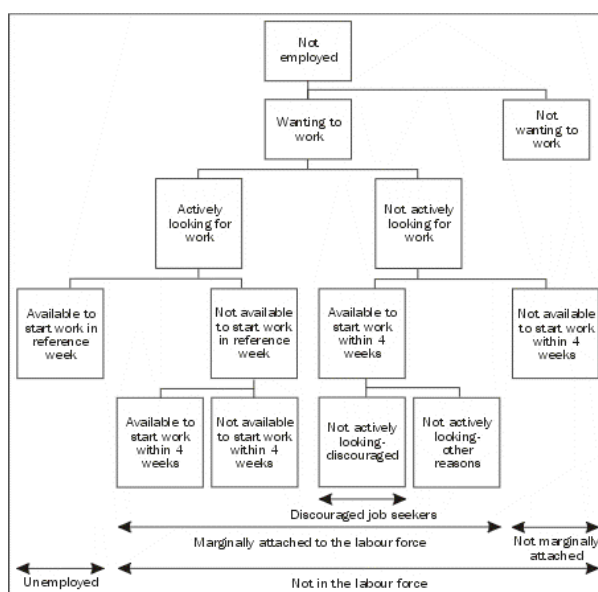
7.14 Discouraged job seekers are defined as people with marginal attachment to the labour force who want to work and could start work within four weeks if offered a job, but who have given up looking for work for reasons associated with the labour market. This group includes people who believe they would not find a job for any of the following reasons:

- considered to be too young or too old by employers
- lacked necessary schooling, training, skills or experience
- difficulties with language or ethnic background
- no jobs in their locality or line of work
- no jobs available at all.

This definition of discouraged job seekers is consistent with the definition of discouraged workers outlined in international guidelines.

7.15 Diagram 7.1 illustrates the concepts of not in the labour force, unemployed, marginally attached, and discouraged job seekers, as measured in the Persons Not In the Labour Force Survey.

**7.1 CONCEPTUAL FRAMEWORK: PERSONS NOT IN THE LABOUR FORCE**



### DATA SOURCES

7.16 Estimates of persons not in the labour force are available from:

- the Labour Force Survey
- the Persons Not In the Labour Force Survey

- the Census of Population and Housing
- Special Social Surveys.

## LABOUR FORCE SURVEY

7.17 The Labour Force Survey is the official source for Australian employment and unemployment statistics and defines persons not in the labour force according to the definitions outlined above, using the full questionnaire module. Persons not in the labour force are further classified as:

- looking for work (i.e. either undertook active job search and were not available to commence work, or undertook only passive job search)
- not looking for work
- permanently unable to work
- in institutions.

7.18 Estimates of reason for inactivity, marginal attachment and discouraged job seekers are impractical to collect in the Labour Force Survey, because of cost, time and respondent burden. These topics are therefore measured in an annual supplement to the Labour Force Survey, as noted below. Notwithstanding this, quarterly estimates of the number of marginally attached people who had actively looked for work, were not available to start work in the reference week, but were available to start within four weeks, are available from the Labour Force Survey. For more details on the content and methodology of the Labour Force Survey refer to **Chapter 20**.

## SUPPLEMENTARY SURVEY: PERSONS NOT IN THE LABOUR FORCE

7.19 The supplement to the Labour Force Survey, the Persons Not In the Labour Force Survey, is the main source of detailed information on persons not in the labour force. Persons not in the labour force are defined as for the Labour Force Survey, but the scope of the Persons Not In the Labour Force survey is restricted to people aged 15-69 years. The survey produces estimates of persons marginally attached to the labour force, of discouraged job seekers, and of persons not in the labour force classified by reasons for inactivity. The definitions for marginal attachment and discouraged job seekers used in the survey are discussed above. For further information on the content and methodology of the survey refer to **Chapter 21.10**.

## CENSUS OF POPULATION AND HOUSING

7.20 The Census of Population and Housing uses the self-enumerated questionnaire module and defines persons not in the labour force as 'persons aged 15 years and over who, during the week before census night, were neither employed nor unemployed'. As discussed previously, the self-enumerated questionnaire uses a limited set of questions to collect labour force status and measures persons not in the labour force more broadly than collections using the full questionnaire modules. The Labour Force Survey and its supplementary topic Persons Not In the Labour Force both use the full questionnaire. When comparing estimates from the Census with those from the Labour Force Survey, or the Persons Not In the Labour Force Survey, users should also note differences in scope and methodologies across the collections. Estimates of persons not in the labour force from the Census are available down to the statistical local area level (**footnote 1**). See **Chapter 19** for more information on the Census of Population and Housing.

## SPECIAL SOCIAL SURVEYS

7.21 The Special Social Surveys generally use the reduced questionnaire module and define persons not in the labour force as 'persons who were neither employed nor unemployed during the reference period'. Estimates are generally only produced for people (in scope of the survey) aged 15 years and over. As discussed previously, the reduced questionnaire module uses a limited set of questions to determine labour force status, and measures 'not in the labour force' less precisely than collections using the full questionnaire modules, including the Labour Force Survey and its supplementary topic Persons Not In the Labour Force. When comparing estimates from the Special Social Surveys with the Labour Force Survey, or with Persons Not In the Labour Force, users should also note differences in scope and methodologies across the collections.

## FURTHER INFORMATION

7.22 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. Statistical local areas (SLAs) consist of one or more Census collection districts. In aggregate, SLAs cover the whole of Australia without gaps or overlaps. An SLA consists of a single local government area, or part thereof, or any unincorporated area. For more information see paragraphs 16.35-16.42 in **Chapter 16**. **<back**

[Previous Page](#)

[Next Page](#)

## 21.14. Underemployed Workers

[Contents >> Methods >> Household Collections >> Chapter 21. Labour Force Supplementary Surveys >> 21.14. Underemployed Workers](#)

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## INTRODUCTION

21.14.1 This survey provides information about workers who are not fully employed, i.e. part-time workers who indicate that they would prefer to work more hours, and full-time workers who did not work full-time hours in the reference period for economic reasons (see **Chapter 5**). This group includes 'time-related underemployed' workers. Measures of underemployment supplement other measures of labour market slack such as the number of unemployed persons and discouraged job seekers.

21.14.2 While basic data on underemployment are available from the Labour Force Survey, this supplementary survey provides greater detail on the characteristics and the job search activities of this important segment of labour underutilisation. The data also provide important support to policy formulation, as well as for labour market forecasts, and are an important source for those concerned with employment policy initiatives, and benefit and support programs.

21.14.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

## SURVEY OUTPUT

21.14.4 Data from the survey are published in **Underemployed Workers, Australia** (cat. no. 6265.0). More detailed data are available on request.

21.14.5 Data from the survey relate to all employed people aged 15 years and over. The largest population of interest is part-time workers wanting to work more hours. Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

## SOCIO-DEMOGRAPHIC INFORMATION

Sex, age, marital status, household/family relationship, state or territory of usual residence, educational attainment, birthplace and year of arrival in Australia.

## PERSONS EMPLOYED

Whether fully employed or not fully employed, full-time/part-time status, status in employment, number of hours worked in the reference week.

## PART-TIME WORKERS WANTING TO WORK MORE HOURS

Duration of current period of insufficient work, whether would move interstate if offered a suitable job, whether would move intrastate if offered a suitable job, whether would prefer to change occupation to work more hours, whether would prefer to change employer to work more hours, whether had been looking and/or was available to start additional work, steps taken to find additional work, whether registered with Centrelink, preferred number of extra hours, main difficulty in finding additional work, usual hours worked, preferred total hours.

21.14.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 3** (Employment), **Chapter 4** (Employment Characteristics), **Chapter 5** (Underemployment) and **Chapter 16** (Other Classifications Used in Labour Statistics).

## SCOPE

21.14.7 The scope of this survey is restricted to persons aged 15 years and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## DATA COMPARABILITY OVER TIME

21.14.8 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

### 1985

Initial survey conducted (May) - data published in **Underemployed Workers, Australia** (cat. no. 6265.0).

### 1988

Survey conducted (May).

### 1991

Survey conducted (May).

### 1994

Annual collection commenced (September).

Sample restricted to no more than seven-eighths of the Labour Force Survey sample.

Standard Data Service replaced publication format (cat. no. changed to 6265.0.40.001).

Data items added to the survey:

- whether part-time workers wanting more hours, who were available to start additional work within four weeks, were also available to start additional work last week.

Data items no longer available:

- occupation; and
- industry.

## 1996

Publication format replaced Standard Data Service (cat. no. changed to 6265.0).

Data items added to the survey:

- duration of current period of insufficient work;
- whether would move interstate if offered a suitable job;
- whether would move intrastate if offered a suitable job;
- whether would prefer to change occupation;
- whether would prefer to change employer to work more hours; and
- main difficulty in finding work.

## 1997

Persons living in remote and sparsely settled areas excluded from scope.

## FURTHER INFORMATION

21.14.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## 21.15. Work Related Injuries

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.15. Work Related Injuries](#)

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### INTRODUCTION

21.15.1 This survey collects information about persons who had experienced a work-related injury or illness in the previous 12 months. The survey was conducted for the first time in September 2000 and may be repeated in future years.

21.15.2 The purpose of the survey is to provide information on the extent of work-related injuries. Data collected in the survey will assist in monitoring programs and formulating policies in relation to workers' compensation and occupational health and safety.

21.15.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

21.15.4 Data from the survey will be produced in the form of a set of tables or a publication. More detailed estimates will be available on request.

21.15.5 The main population of interest in the survey is persons who worked at some time during the previous 12 months and who suffered a work-related injury or illness. Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, birthplace and year of arrival in Australia.
Labour force characteristics (current job and job in which injury was sustained, if different)	Occupation, industry, full-time or part-time status, and permanent or casual status.

Work-related injuries information	Number of work-related injuries or illnesses; the number of days/shifts absent from work; sources of financial assistance; whether applied for workers' compensation; and the reason for not applying for workers' compensation.
-----------------------------------	--

21.15.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** employment characteristics), **Chapter 15** (occupational injuries and diseases) and **Chapter 16** (socio-demographic information and industry).

## SCOPE

21.15.7 The scope of this survey is restricted to persons aged 15 years and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## DATA COMPARABILITY OVER TIME

21.15.8 The survey was conducted for the first time in 2000.

## FURTHER INFORMATION

21.15.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## 21.16. Working Arrangements

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.16. Working Arrangements](#)

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### INTRODUCTION

21.16.1 This survey collects information about the working time arrangements of employees. The survey was first conducted in August 1993 and has since been conducted in August 1995, August 1997 and November 2000.

21.16.2 Data from this survey are used to examine the differing working arrangements of employees, including the flexibility of working arrangements and shift work.

21.16.3 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

21.16.4 Data from the survey are published in **Working Arrangements, Australia** (cat. no. 6342.0). More detailed data are available on request.

21.16.5 The main population of interest is employees (excluding those working solely for payment in kind, and those aged 15-19 who are still attending school). Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, birthplace and year of arrival in Australia.
Employees	Occupation, industry, sector, size of employees workplace, hours worked, full-time or part-time status, weekly earnings, permanent or casual status, trade union membership, standard employment benefits received (superannuation, holiday leave, sick leave, long service leave), whether start and finish times are fixed or negotiable, whether able to work extra hours in order to take time off, whether entitled to rostered days off, whether worked shift work in previous four weeks, whether works in a job-share arrangement, whether works overtime on a regular basis, whether can choose when to take paid holidays, days of the week usually works in main job, and whether had children under 12 years.
Employees working part-time in main job	Reason for working part-time hours.
Employees entitled to rostered days off	Whether can choose when to take a rostered day off.
Employees who work overtime on a regular basis	Hours of overtime usually worked, whether most recent period of overtime was paid, and method of payment.
Employees who worked shift work in the previous four weeks	Type of shift work.
Employees who had an absence from their main job of at least three hours in the last two weeks	Main reason for absence, type of leave taken, and whether leave was paid.

Employees who had children under 12 years

Age of youngest child, whether used childcare in previous four weeks (if not used then reason for not using childcare, if used then type of childcare), and number of employees in household.

21.16.6 Data collected in the survey are compiled according to concepts and definitions outlined in **Chapter 4** (employment characteristics), **Chapter 12** (earnings) and **Chapter 16** (socio-demographic information, industry and sector).

## SCOPE

21.16.7 The scope of this survey is restricted to persons aged 15 and over, excluding persons aged 15-19 still attending school. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## DATA COMPARABILITY OVER TIME

21.16.8 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey may also affect this survey. Such changes are outlined in **Chapter 20** and are not repeated here.

**1993** Biennial survey commenced - data published in **Working Arrangements, Australia** (cat. no. 6342.0).

Survey scope - persons aged 15 and over.

Related data published prior to 1993 include:

- **Alternative Working Arrangements, Australia** (cat. no. 6341.0). Conducted in March to May 1982 and then again in September to November 1986, this survey collected information about employees current working arrangements and preferences for changes to these arrangements;
- **Working Hours Arrangements, Australia** (cat. no. 6338.0) and **Working Hours Arrangements, Australia, Supplementary Tables** (cat. no. 6339.0). Conducted in February to March 1981, this survey collected information about employees current working patterns;
- **Work Patterns of Employees, Australia** (Ref. no. 6.70), conducted in November 1976; and
- **Evening and Night Work, Australia** (cat. no. 6329.0), also conducted in November 1976.

**1995** Sample restricted to no more than seven-eighths of the Labour Force Survey sample.

Persons aged 15-20 years attending school excluded from scope.

Standard Data Service replaced publication format (cat. no. changed to 6342.0.40.001).

**1997** Persons living in remote and sparsely settled areas excluded from scope.

Publication format replaced Standard Data Service (cat. no. changed to 6342.0).

Following data items excluded:

- whether had a rostered day off in the last four weeks;
- hours worked in most recent shift; and
- number of days worked in a row in most recent period of shift work.

**2000** Following data items added:

- hours worked in most recent shift;
- whether works in a job-share arrangement;
- number of days usually worked each fortnight;
- main reason usually works overtime; and
- preference to work more, less or the same number of hours usually worked.

Following data items excluded:

- size of employee's workplace;
- weekly earnings (in main job);
- superannuation coverage; and
- provision of paid long service leave.

## FURTHER INFORMATION

21.16.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 8. Measures of Underutilised Labour

[Contents >> Concepts and Sources >> Chapter 8. Measures of Underutilised Labour](#)

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## Chapter 9. Usually Economically Active Population

[Contents >> Concepts and Sources >> Chapter 9. Usually Economically Active Population](#)

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### INTRODUCTION

9.1 As discussed in **Chapter 2**, there are two measures of the economically active population: the currently active population, and the usually active population. This chapter discusses the concepts and measures of the usually active population. Chapters 5 to 8 discussed concepts and measures of the currently active population.

### CONCEPTS AND INTERNATIONAL GUIDELINES

9.2 International guidelines on the usually economically active population (Thirteenth ICLS 1982) recommend collection of statistics of usual activity to complement statistics of current activity. Whereas current activity measures provide a snapshot of the economically active population at a point in time, usual activity measures provide a picture of the economically active population over a long period not affected by seasonal patterns of activity, or other labour force movements. The usual activity framework permits the collection of information not only on the main activity of individuals over a long period, but also on their other activities during that period. While this measure is particularly appropriate where frequent collection of the currently active population is not practical, usual activity measures also allow for extended analysis of various aspects of labour dynamics, and of employment and income relationships. Commonly, measurement of the usually active is combined with measures of the currently active in the same survey.

9.3 The ILO, in its manual **Surveys of Economically Active Population, Employment, Unemployment and Underemployment**, outlines a framework for measurement of the usually active population and contrasts it with the framework of the currently active population (the labour force framework). Like the labour force framework, the usually active framework is based on activity status, and classifies the population into mutually exclusive groups of employed, unemployed and not in the labour force. However, unlike the currently active population, the framework of the usually active population is based on the **main** activity undertaken, and over a long rather than short reference period.

9.4 A further difference between the two frameworks concerns the order in which the economically active population and its states of employment and unemployment are determined. Within the usually active framework, individuals are first classified as 'usually active' or 'usually inactive' and then into the employed and unemployed categories. In contrast, in the labour force framework individuals are first identified as employed or unemployed (which together form the labour force, the measure of the current stock of labour supply).

### LONG REFERENCE PERIOD

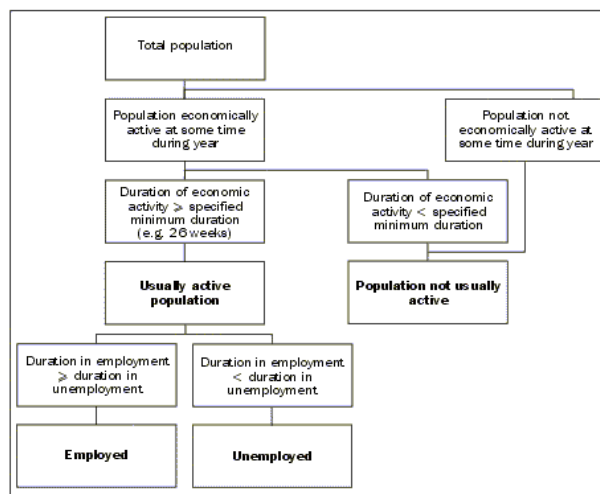
9.5 The international guidelines recommend the use of a long reference period for measurement of the usually economically active population, such as 12 months. The international guidelines consider a range of survey situations where the use of either a fixed or moving reference period may be appropriate, and suggest that for countries where the survey data are collected over a short period (as in Australia) a fixed reference period is preferable.

### MAIN ACTIVITY STATUS

9.6 According to the international guidelines, the usually active population comprises all persons above a specified age whose main activity status, as determined in terms of number of weeks or days during a long specified period, was employed or unemployed as defined in the labour force framework.

9.7 The framework for usual activity recommended by the ILO is shown in diagram 9.1.

#### 9.1 ILO FRAMEWORK OF USUAL ACTIVITY



## DEFINITIONS USED IN ABS SURVEYS

9.8 Measures of the usually active population are collected by the ABS in the supplementary topic to the Labour Force Survey, Labour Force Experience. The concepts and definitions underlying measures from this survey are outlined below.

9.9 The survey collects information about time spent in labour force activities, including episodes of looking for work and time spent out of the labour force, over a 12 month period. Measures of 'worked' and 'looked for work' collected in the survey are based on the respondents' own perception of their labour force status.

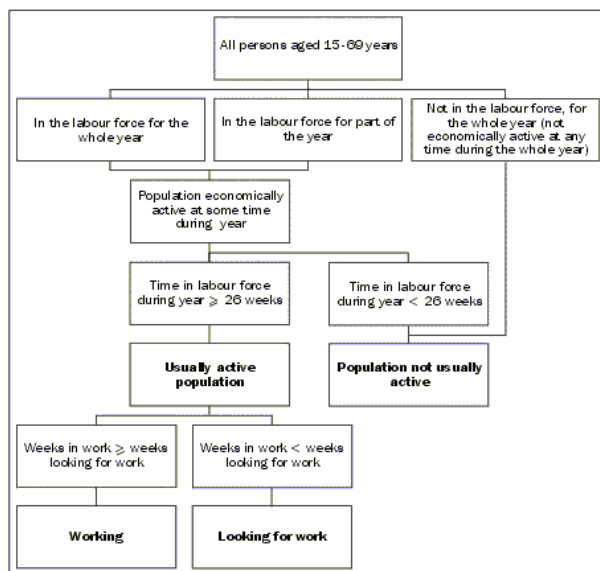
9.10 The survey classifies persons into various labour force states during the survey year based on a more limited set of questions than is used in surveys of the currently active. Accordingly, the terms 'worked' and 'looked for work' are used rather than the more precisely defined 'employed' and 'unemployed'. While this approach is not consistent with the international guidelines, the ILO recognises that measuring employment and unemployment as defined in the labour force framework over a long reference period may not be practical (as they depend on respondent recall in relation to retrospective measures).

9.11 The survey publication **Labour Force Experience, Australia** (cat. no. 6206.0) presents a framework for the Labour Force Experience Survey which groups the population into three mutually exclusive groups. Using these three groups as a starting point, a framework for determining the usually active/inactive split that aligns with the international guidelines can be constructed:

- The first group, 'in the labour force for the whole year', corresponds to usually active (either employed or unemployed depending on the labour force state in which most time was spent).
- The second group, 'in the labour force for part of the year', corresponds to either usually active or usually inactive depending on the duration of time spent in the labour force. Persons in this group who spent the majority of the 12 month reference period working correspond to usually active 'employed'. Those who spent the majority of the period looking for work correspond to usually active 'unemployed'. Those who spent the majority of the period not in the labour force (neither working nor looking for work) correspond to usually inactive.
- The third group, 'not in the labour force for the whole year', corresponds to usually inactive.

9.12 These concepts are illustrated below in diagram 9.2.

### 9.2 ABS FRAMEWORK FOR DETERMINING USUAL ACTIVITY (AN EXTENSION OF THE LABOUR FORCE EXPERIENCE SURVEY FRAMEWORK)



## DATA SOURCES

9.13 Information about the usually economically active population is available from:

- the supplementary topic to the Labour Force Survey, Labour Force Experience, and various other supplementary topics;
- Special Social Surveys; and
- the Labour Force Survey.

## SUPPLEMENTARY SURVEY: LABOUR FORCE EXPERIENCE

9.14 The primary ABS data source for the usually active population is the supplementary survey to the Labour Force Survey, the Labour Force Experience Survey. This topic classifies persons into the various labour force states using the framework outlined above. For further information on the content or methodology of this survey refer to **Chapter 21.5**.

## OTHER SUPPLEMENTARY SURVEYS

9.15 Other supplementary surveys that collect more detailed information on subgroups within the usual activity framework include: the Labour Mobility Survey, which collects information from persons who had worked during the 12 months prior to the survey reference date; and the Successful and Unsuccessful Job Search Experience Survey, which collects information from persons who had looked for work during the 12 months prior to the survey reference date. For further information on both these surveys, see **Chapter 21.7** and **Chapter 21.13**.

## SPECIAL SOCIAL SURVEYS

9.16 The Special Social Survey, the Survey of Employment and Unemployment Patterns also used the concepts of the usual activity framework, as outlined above, to classify persons into various 'episodes of labour market activity' which included: working; looking for work; and absence from the labour market. For further information on the content and methodology of this survey, see **Chapter 24**.

## LABOUR FORCE SURVEY

9.17 The Labour Force Survey collects related information in its quarterly measures of job tenure (length of time in current job) and employment expectations, thus providing complementary measures of labour market dynamics in the form of recent and potential future movements in the labour force, and a broad measure of the extent of short-term employment. For further information on the content or methodology of this survey refer to **Chapter 20**.

## FURTHER INFORMATION

9.18 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## 21.17 Job Search Experience

[Contents](#) >> [Methods](#) >> [Household Collections](#) >> [Chapter 21. Labour Force Supplementary Surveys](#) >> [21.17 Job Search Experience](#)

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## INTRODUCTION

21.17.1 This survey provides information about the way people look for jobs, the methods they use and those which prove to be successful. Particular focus is on two key aspects: steps taken to find work, and barriers encountered in finding work. First conducted in 2002, the survey is conducted annually in July. The survey replaces the annual survey of Job Search Experience of Unemployed Persons conducted from 1976 to 2001 (see **Chapter 21.4**) and the survey of Successful and Unsuccessful Job Search Experience, conducted irregularly from 1982 to 2001 (see **Chapter 21.13**). Data from the survey are used in formulating policies in areas such as labour market assistance, and control and review mechanisms for unemployment benefit payments.

21.17.2 This section describes only those aspects of the methodology that are unique to this survey, and hence should be used in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

## SURVEY OUTPUT

21.17.3 Data from the survey are published in **Job Search Experience, Australia** (cat. no. 6222.0). More detailed data are available on request.

21.17.4 The main populations of interest are the employed (at the survey date) who had started a job in the last 12 months, and persons unemployed at the survey date. Estimates include:

Socio-demographic information	Sex, age, marital status, relationship in household, family, geographic region, educational attainment, birthplace and year of arrival in Australia.
Employed who started current job in previous 12 months:	Whether out of work prior to starting job, whether first job ever held, number of jobs started in the previous 12 months, all steps taken to attain job, whether jobseeker approached employer, whether had prior knowledge that job was available, role of Job Network in job attainment, month started job, duration of looking for work before being offered job, occupation of current job, full-time or part-time status of current job, whether prefers to work more hours than usually works.
Unemployed persons	Number of jobs started in previous 12 months, whether looking for full-time or part-time work, number of hours of work sought, duration of current period of unemployment, steps taken to find work, whether registered with a Job Network employment agency, number of offers of employment in the current period of unemployment, difficulties in finding work, number of spells of looking for work in the previous 12 months, time spent looking for work in the previous 12 months, whether has ever worked, status in employment in last job, occupation of last job, industry of last job, whether worked full-time or part-time in last job, duration of last job, reason for ceasing last job.

## SCOPE

21.17.5 The scope of this survey is restricted to persons aged 15 years and over. The standard scope restrictions for supplementary surveys outlined in the overview part of **Chapter 21** also apply to this survey.

## COLLECTION METHODOLOGY

21.17.6 Personal interviews are used to collect information for the survey. Both face to face and telephone interviewing techniques are used.

## DATA COMPARABILITY OVER TIME

21.17.7 In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible.

21.17.8 Changes in the earlier surveys (Job Search Experience of Unemployed Persons and Successful and Unsuccessful Job Search Experience) are discussed in **Chapter 21.4** and **Chapter 21.13** respectively.

YEAR	EVENT
2002	Initial survey conducted (July). The survey replaced the annual survey, Job Search Experience of Unemployed Persons and the biennial survey, Successful and Unsuccessful Job Search Experience.
2003	Employed persons who had started work in the past 12 months replaced the previous measure, persons who had started work for an employer for wages or salary in the past 12 months. The item 'Active steps taken to find work' was replaced with 'All steps taken to find work'. Categories that appear in both years can be compared directly.  The derivation of 'Whether out of work prior to starting job' was changed (with all persons employed in their own business shown in a separate category).

## FURTHER INFORMATION

21.17.9 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 10. Other Measures of the Economically Active Population

[Contents >> Concepts and Sources >> Chapter 10. Other Measures of the Economically Active Population](#)

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## INTRODUCTION

10.1 This chapter addresses a number of ABS statistics relating to the economically active population which were not discussed elsewhere. Previous chapters have discussed the concept of economic activity (**Chapter 2**), and measures of the currently active population (Chapters 3 to 7) and of the usually active population (**Chapter 9**). Concepts underlying the statistics included in this chapter supplement those discussed earlier. They are explained somewhat more briefly because they are discussed in depth in other ABS publications; or are self explanatory; or are ancillary to the main concepts.

## LABOUR FORCE GROWTH

10.2 Statistics on labour force entry and exit provide information on labour force growth. Major sources of labour force growth occur through the entry of leavers from educational institutions and from net overseas migration. In addition, some persons re-enter the labour force after a period of absence (e.g. persons who have been looking after children). Reasons for departure from the labour force include:

- retirement from work;
- withdrawal from work to gain educational qualifications; and
- withdrawal from work to care for children.

In addition, persons wanting to work may withdraw from job search because they believe jobs are not available (discouraged job seekers - see **Chapter 7** for further information on this topic). Departures from the labour force may be either temporary or permanent.

10.3 The surveys outlined below examine subsets of entries to and/or exits from the labour force in detail.

## SUPPLEMENTARY SURVEY: TRANSITION FROM EDUCATION TO WORK

10.4 Data on the transition from education to work are collected in the supplement to the Labour Force Survey, the Transition from Education to Work Survey. Information collected includes estimates of numbers of persons entering the labour force after leaving educational institutions, including those who have found work. For more information on this topic refer to **Education and Work, Australia** (cat. no. 6227.0).

## MIGRANTS

10.5 Information on the labour force status of migrants is collected in the supplement to the Labour Force Survey, the Labour Force Status and Other Characteristics of Migrants Survey. Results are published in **Labour Force Status and Other Characteristics of Migrants, Australia** (cat. no. 6250.0). For more information refer to this publication.

10.6 In addition to information contained in the Labour Force Survey supplementary survey, the ABS also publishes statistics on net overseas migration in **Australian Demographic Statistics** (cat. no. 3101.0). For this collection, migrants are defined as permanent residents of Australia (i.e. they have permanent resident status) who were not born in Australia. For more information on the collection refer to the publication listed above.

## SUPPLEMENTARY SURVEY: RETIREMENT AND RETIREMENT INTENTIONS

10.7 Information on retirement from work is collected, from persons aged 45 years or over, in a supplement to the Labour Force Survey, the Retirement and Retirement Intentions Survey. The following definitions apply to this survey:

- intend to retire from full-time work - those persons who indicated that they intend to give up working or looking for full-time work;
- intend to retire from the labour force - those persons who indicated that they intend to give up all labour force activity, i.e. working or looking for work;
- partial retirement - persons who had retired from full-time work or looking for full-time work, and were working or looking for part-time work;
- retired from the Labour Force - persons who had retired from work or looking for work of more than 10 hours per week, and did not intend to work at any time in the future. These persons are considered fully retired. Persons who have never worked more than 10 hours per week are also treated as fully retired; and
- retired from part-time work - persons who had ceased part-time labour force activity, i.e. working or looking for work of 10-34 hours per week, and who did not intend to work or look for work of 10-34 hours per week at any time in the future.

10.8 For more information on data available from this survey or the collection methodology used refer to **Chapter 21.11**.

## OTHER DATA SOURCES

10.9 Other sources of labour statistics related to labour force entry and exit that have been discussed in previous chapters are outlined below. For more information on these statistics please refer to the chapters referenced.

- Labour Force Survey (**Chapter 20**) - data relevant to exits and entries include gross flows statistics which provide information on movements between 'in the labour force' and 'not in the labour force'.
- The supplement to the Labour Force Survey, the Persons Not In the Labour Force Survey (**Chapter 21.10**) - data relevant to exits and entries include information on reasons not in the labour force and on work preferences.

- The supplement to the Labour Force Survey, the Labour Force Experience Survey (**Chapter 21.5**) - data relevant to exits and entrance include information on labour force experiences over a 12 month period, including time spent working, looking for work, and neither working nor looking for work.
- Survey of Employment and Unemployment Patterns (**Chapter 24**) - data relevant to exits and entries includes information on labour force activities undertaken over a three year period, including information on periods of work, looking for work and absences from the labour force.

## LABOUR MARKET DYNAMICS

10.10 Most labour statistics focus on points in time (for example the size and structure of the labour force). Statistics on labour market dynamics focus on changes over time, and relate mainly to the experiences of individuals, both in and out of the labour force.

### SUPPLEMENTARY SURVEY: LABOUR MOBILITY

10.11 The purpose of the supplement to the Labour Force Survey, the Labour Mobility Survey, is to provide information on job mobility and job tenure. The survey collects information from persons who worked at some time during the previous 12 months and is a major source of data for analysing the dynamic nature of the labour force. For more information on data availability and collection methodology refer to **Chapter 21.7**.

### SUPPLEMENTARY SURVEY: CAREER EXPERIENCE

10.12 Data on the career experiences of employees are collected in a supplement to the Labour Force Survey, the Career Experience Survey. Data collected includes details of current job, changes in jobs, and breaks away from work for six months or more. For more information, refer to **Chapter 21.1**.

### SUPPLEMENTARY SURVEY: RETRENCHMENT AND REDUNDANCY

10.13 Information on persons affected by retrenchment and redundancy and their subsequent labour force outcomes is collected in an irregular supplement to the Labour Force Survey, the Retrenchment and Redundancy Survey. See **Chapter 21.12** for more information on the content and methodology of this survey.

## OTHER DATA SOURCES

10.14 Other sources of labour statistics related to labour market dynamics that have been discussed in previous chapters are outlined below. For more information on these statistics please refer to the chapters referenced.

- Labour Force Survey (**Chapter 20**) - gross flows data provide information on movements between labour force states including movements between employment and unemployment.
- The supplement to the Labour Force Survey, the Labour Force Experience Survey (**Chapter 21.5**) - data relevant to labour market dynamics include information time spent working, looking for work, and neither working nor looking for work.
- Survey of Employment and Unemployment Patterns (**Chapter 24**) - data relevant to labour market dynamics include information on labour force activities undertaken over a three year period, including information on periods of work, looking for work and absences from the labour force.
- The supplements to the Labour Force Survey focusing on unemployment - the Job Search Experience of Unemployed Persons Survey (**Chapter 21.4**), and the Successful and Unsuccessful Job Search Experience Survey - both collect data on the job search experiences of the unemployed over a twelve month period.

## SUPERANNUATION

10.15 Detailed information on superannuation provision and income is collected in the Special Social Survey, the Survey of Employment Arrangements and Superannuation. Information on employers' contributions to superannuation funds on behalf of their employees is also collected in the ABS business survey, the Labour Costs Survey.

### SURVEY OF EMPLOYMENT ARRANGEMENTS AND SUPERANNUATION

10.16 Information collected includes: details of the type of superannuation coverage people have; the levels of contributions; reasons for not contributing to superannuation; superannuation account balances; and the amounts of and uses of lump sums received from superannuation. The following definitions apply to this survey:

- Superannuation account - an individual's holdings in a superannuation fund.
- Superannuation fund (also known as a superannuation scheme or superannuation plan) - any fund, association or organisation set up for the purpose of providing benefits for members on their retirement, or in other specified circumstances.
- Superannuation coverage - a set of categories describing the types of contributions being made to superannuation (for those who are working or who intend to work in the future, i.e. pre-retirement) or whether any benefit has been received from superannuation (for those who are not working and do not intend to work in the future, i.e. who are retired). The categories used are:
  - Working or intending to work in the future
    - Personal or spouse contributions only
    - Personal or spouse and employer or business contributions
    - Employer or business contributions only

- Has superannuation, but no contributions being made
- Has no superannuation
- Not working and not intending to work in the future
- Not receiving income from superannuation or annuities and no lump sum received
- Receiving income from superannuation or annuities or has received a lump sum

10.17 For more information on the content and methodology of this survey, refer to **Chapter 23**.

## LABOUR COSTS SURVEY

10.18 The Labour Costs Survey collects information on employers' superannuation contributions as a component of total labour costs. Information collected relates only to employer-funded contributions; contributions by employees are excluded. Readers should note that due to the different funding arrangements adopted in the public and private sectors, estimates of superannuation are not directly comparable between the sectors - see **Chapter 12** for further information. **Chapter 28** provides more information on the content and methodology of this survey.

## FURTHER INFORMATION

10.19 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

# Chapter 11. Job Vacancies

[Contents >> Concepts and Sources >> Chapter 11. Job Vacancies](#)

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## INTRODUCTION

11.1 This chapter discusses the concepts, definitions and sources of job vacancies data. Job vacancies are an indicator of labour demand. They complement indicators of oversupply of labour such as unemployment (**Chapter 6**) and underemployment (**Chapter 5**).

## CONCEPTS AND DEFINITIONS

11.2 There are no international recommendations or guidelines relating to job vacancies statistics. However, it has been suggested (**footnote 1**) that it is fairly simple to develop a definition of a 'vacant post' which parallels the definition of an 'unemployed person'. The concept of vacant post was discussed in the general report to the Fifteenth ICLS 1993 where the following definition was put forward: "a 'vacant post' can be said to exist if an employer before or during the reference period has taken concrete steps to find a suitable person to carry out a specific set of tasks and would have taken on (entered into a job contract with) such a person if she/he had been available during the reference period".

11.3 Job vacancies statistics are collected in the ABS Job Vacancies Survey, a business survey. It has been ABS practice to define job vacancies as **employee jobs available for immediate filling** on the actual survey reference day and **for which employers have undertaken recruitment action**. Recruitment action includes efforts to fill vacancies by advertising, by factory notices, by notifying public or private employment agencies or trade unions and by contacting, interviewing or selecting applicants already registered with the business or organisation.

11.4 Measures of job vacancies exclude: jobs which became vacant on the survey reference day and were filled on the same day; jobs of less than one day's duration; jobs only available to be filled by persons already hired, or by promotion or transfer of existing employees; jobs to be filled by persons returning from paid or unpaid leave or after industrial dispute(s); jobs for work to be carried out by contractors or staff from contract labour agencies; and jobs for which a person has been appointed but has not yet commenced duty.

11.5 The job vacancy rate is calculated by expressing the number of job vacancies as a percentage of the number of employee jobs plus vacancies.

## DATA SOURCES

11.6 Estimates of job vacancies are available from:

- the ABS Job Vacancies Survey;
- the Australia and New Zealand Banking Group (ANZ) series based on counts of newspaper advertisements and Internet advertisements; and
- the Department of Employment, Workplace Relations and Small Business Vacancy Report incorporating: the Skilled Vacancies Index based on counts of newspaper advertisements for skilled vacancies; the Information and Communications Technology (ICT) Vacancies Index based on Internet advertisements for ICT vacancies on selected employment Internet sites; and Vacancies on Australian Job Search (AJS) based on Internet advertisements for job vacancies on the AJS employment Internet site.

## JOB VACANCIES SURVEY

11.7 Estimates from this survey are produced according to the definitions outlined above. For more information on the data content and methodology of this survey refer to **Chapter 27**.

## ANZ SERIES

11.8 The ANZ produces two series, one based on newspaper advertisements placed in major metropolitan newspapers, the other on Internet advertisements carried on selected employment Internet sites. Readers should refer to **Australian and New Zealand Banking Group Limited, ANZ Job Advertisement Series**, for more detail on the content and methodology of these series.

## VACANCY REPORT - DEPARTMENT OF EMPLOYMENT, WORKPLACE RELATIONS AND SMALL BUSINESS

11.9 The Department of Employment, Workplace Relations and Small Business produces three series, the Skilled Vacancies Index, the ICT Vacancies Index, and the Vacancies on Australian Job Search series (see paragraph 11.6). Readers should refer to **Department of Employment, Workplace Relations and Small Business, Vacancy Report** for more detail on the content and methodology of these series.

## FURTHER INFORMATION

11.10 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. E. Hoffman, "Measuring the demand for labour", in Bulletin of Labour Statistics, 1992-1, ILO, Geneva 1991. **<back**

[Previous Page](#)

[Next Page](#)

## Chapter 12. Earnings, Employee Compensation, Labour Costs and Related Statistics

[Contents >>](#) [Concepts and Sources >>](#) [Chapter 12. Earnings, Employee Compensation, Labour Costs and Related Statistics](#)

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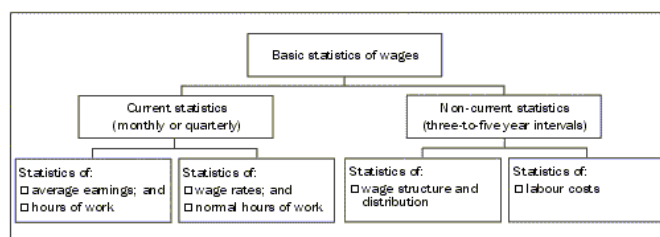
## INTRODUCTION

12.1 Statistics of wages, earnings and income are required for the planning, evaluation, and monitoring of economic and social development. Demand for the statistics emanates from Federal and State Governments, social and labour market analysts, Federal and State industrial tribunals, trade unions, employer associations, academics and international agencies.

12.2 Comprehensive statistics on wage rates, earnings and labour costs, and differentials by sex, occupation, skill, industry etc., are in such demand because of the role they play in: evaluation of income redistribution, social welfare, taxation, monetary, wage fixation, inflation and prices policies; investment decisions; studies of corporate and international competitiveness; and measurement of living standards.

12.3 The myriad users and uses of statistics in this area can never be satisfied with a single all-encompassing statistical measure that would meet all needs for all purposes. In recognition of this, the Twelfth ICLS (1973) recommended that countries collect a range of interrelated wages statistics to meet users' differing needs. The ILO, in its manual **An Integrated System of Wages Statistics, a Manual on Methods**, presents a framework for an integrated system of basic statistics of wages. The framework presented in diagram 12.1 is an adaptation of the ILO framework.

### 12.1 FRAMEWORK FOR AN INTEGRATED SYSTEM OF BASIC STATISTICS OF WAGES



12.4 As discussed in the ILO manual, while the integrated system of wages recommended by the Twelfth ICLS does not deal with the computation of real wages, wage indexes, and similar questions which are of an analytical nature, there is no particular difficulty in bringing these topics, as well as other statistical measures of wages (such as employment-related income and compensation of employees), within the framework of the integrated system.

12.5 The first section of this chapter outlines and contrasts international concepts of wages, earnings, compensation of employees, labour costs, and employment-related income. The subsequent sections discuss in detail: definitions associated with various ABS wages, earnings and labour costs statistics; sources of Australian statistics, including non-ABS series; and measures and classifications associated with these statistics. Statistics of hours of work are discussed in **Chapter 4**.

## CONCEPTS AND INTERNATIONAL GUIDELINES

### WAGES

12.6 There is no international recommended definition of wages due to differences of opinion as to what components of payments made in employing labour should be included in wages or in other measures.

12.7 The common notion of wages is that of payments to a worker by his/her employer made regularly (at daily, weekly, fortnightly, or monthly intervals) including: payments in cash and in kind; supplementary earnings under incentive plans; cost of living allowances; and regular bonuses. Included also are payments for overtime and for work done on those days which are normally non-working days, and remuneration for time not worked (including paid annual leave, public holidays, sick leave, and other paid leave). Contributions by employers to superannuation, workers' compensation schemes, severance payments on termination, end of service benefits, and retirement allowances, are not considered part of wages.

12.8 This notion of wages, based on the concept of wages as remuneration to the jobholder, underlies the concepts of 'earnings' and 'employment-related income' outlined in international guidelines.

12.9 An alternative notion is to consider wages as part of the total labour cost incurred by employers for the purchase of labour services. Other components of labour costs include costs associated with employing labour which do not automatically accrue as income to employees (such as workers compensation payments, expenditure on recruitment and training, and payroll tax). Under this notion, wages represent payment for labour services, and it is this notion of wages which underlies the concepts of 'compensation of employees' and 'labour costs' outlined in international guidelines (ICLS and the United Nations).

12.10 The international concepts of earnings, compensation of employees, labour costs, and employment-related income are discussed below.

### EARNINGS

12.11 Statistical measures of earnings are based on the concept of wages as income to the employee. The resolution of the Twelfth ICLS (1973) defines the concept of earnings as follows (table 12.2).

#### 12.2 DEFINITION OF EARNINGS (ICLS 1973)

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The concept of earnings, as applied in wages statistics, relates to remuneration and payments in kind paid to employees, as a rule at regular intervals, for time worked or work done, together with remuneration for time not worked such as for annual vacation, other paid leave or holidays. Earnings exclude employers' contributions paid, in respect of their employees, to social security and pension schemes and also the benefits received by employees under these schemes. Earnings also exclude severance and termination pay.

Statistics of earnings should relate to employees' gross remuneration, i.e. the total before any deductions are made by the employer in respect of taxes, contributions of employees to social security and pension schemes, life insurance premiums, union dues and other obligations of employees.

Earnings should include: direct wages and salaries, remuneration for time not worked (excluding severance and termination pay), bonuses and gratuities, and housing and family allowances paid by the employer directly to his employee.

(a) Direct wages and salaries for time worked, or work done, cover:

- (i) straight-time pay of time-rated workers;
- (ii) incentive pay of time-rated workers;
- (iii) earnings of piece-workers (excluding overtime premiums);
- (iv) premium pay for overtime, shift, night and holiday work;
- (v) commissions paid to sales and other personnel.

Included are: premiums for seniority and special skills, geographical zone differentials, responsibility premiums, dirt, danger and discomfort allowances, payments under guaranteed wage systems, cost-of-living allowances and other regular allowances.

(b) Remuneration for time not worked comprises direct payments to employees in respect of public holidays, annual vacations and other time off with pay granted by the employer.

(c) Bonuses and gratuities cover seasonal and end-of-year bonuses, additional payments in respect of vacation period (supplementary to normal pay) and profit-sharing bonuses.

Statistics of earnings should distinguish cash earnings from payments in kind.

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12.12 The international guidelines distinguish between current (monthly and quarterly) and non-current earnings statistics. The definition of earnings presented above is modified for current earnings statistics to include only those elements of earnings which, as a rule, are received regularly. Irregular bonuses, such as end-of-year and other one-time bonuses which accrue over a longer period but are paid during the reference period, should not be included.

### COMPENSATION OF EMPLOYEES

12.13 Compensation of employees, a measure used in the United Nations System of National Accounts 1993, is viewed in terms of employers' expenditure for, or on behalf of, their employees. It is defined as "the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period" (SNA93 paragraph 7.21).

12.14 Compensation of employees excludes taxes, such as payroll tax, paid by employers on their wage and salary bill, but includes contributions (both actual and imputed) payable by employers in order to obtain social benefits for their employees. Actual social contributions consist of those contributions payable by employers to social security funds, pension funds, insurance enterprises or other organisations which administer and manage social insurance schemes. Employers' social contributions are imputed in situations where employers make payments for social benefits directly to their employees, former employees or dependants out of their own resources without involving an insurance enterprise or autonomous pension fund and without creating a special fund or reserve for this purpose.

12.15 'Compensation of employees' produces a broader measure than 'employee earnings', as it includes: all irregular remuneration such as irregular bonuses, ad hoc bonuses and exceptional payments; severance and termination payments; all wages and salaries in kind in the form of consumption goods and services produced or purchased by employers and provided free of charge or at reduced prices to their employees (including welfare services); and employers' actual and imputed social contributions.

12.16 Compensation of employees should be measured on an accrual basis under which the total cost of employee compensation is reflected in the period during which the employee provided services to the employer. This requires that wages and salaries be accrued on the basis of the time worked.

## **LABOUR COSTS**

12.17 The statistical measure of labour costs is based on the concept of labour as a cost to the employer in the employment of labour, and relates to: all cash and in-kind payments of wage and salaries to employees; all contributions by employers in respect of their employees to social security, private pension, casualty insurance, life insurance and similar schemes; and all other costs borne by employers in the employment of labour that are not related to employee compensation (such as costs of training, welfare services to employees, payroll taxes etc). Measures of labour costs should be net of any subsidies, rebates or allowances from governments for wage and salary payments to employees, or for other labour costs borne by employers.

12.18 The conceptual measure of labour cost is broader than the measure 'compensation of employees' since the former includes expenditure for welfare services, recruitment and training and other miscellaneous costs such as work clothes and taxes on employment (payroll tax) - see table 12.3.

### **12.3 DEFINITION OF LABOUR COSTS (ICLS 1973)**

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...remuneration for work performed, payments in respect of time paid for but not worked, bonuses and gratuities, the cost of food, drink and other payments in kind, cost of workers' housing borne by employers, employers' social security expenditures, cost to the employer for vocational training, welfare services and miscellaneous items, such as transport of workers, work clothes and recruitment together with taxes (are) regarded as labour costs.

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## **EMPLOYMENT-RELATED INCOME**

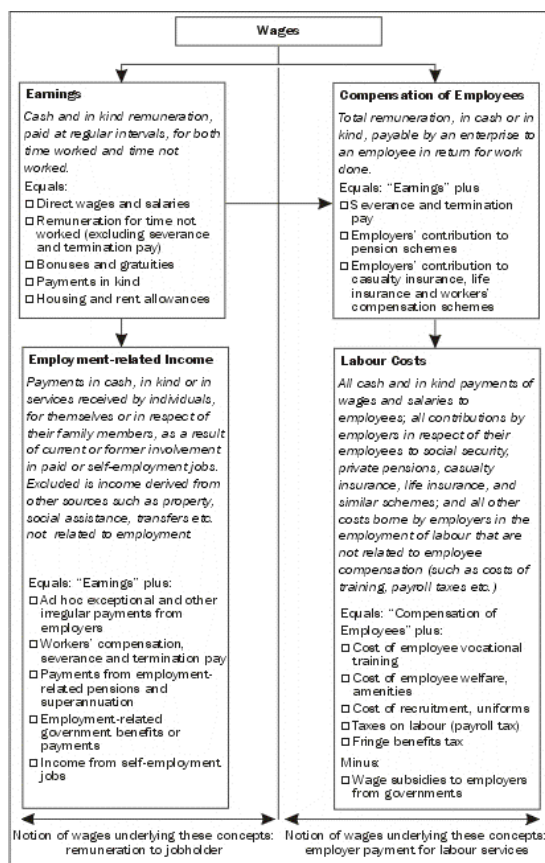
12.19 The concept of employment-related income is seen from the perspective of the recipient household. Current international recommendations (ICLS 1998) define employment-related income as comprising "payments in cash, in kind, or in services received by individuals, for themselves or in respect of their family members, as a result of the current or former involvement in paid or self-employment jobs", but excluding "income derived from other sources such as property, social assistance, transfers etc. not related to employment".

12.20 Employment-related income is therefore a much broader concept than earnings, incorporating: remuneration derived from paid jobs in the form of 'earnings'; other payments received from employers that accrue as income to employees (such as irregular earnings) but which are excluded from the concept of earnings; remuneration from self-employment jobs; and employment-related payments from other sources (superannuation, payments from the State such as pensions etc.) relating to both current and former jobs - see the ICLS resolution on the measurement of employment-related income at the ILO website: <http://www.ilo.org/public/english/bureau/stat/res/index.htm>.

## **RELATIONSHIP BETWEEN CONCEPTS OF EARNINGS, COMPENSATION OF EMPLOYEES, LABOUR COSTS, AND EMPLOYMENT-RELATED INCOME**

12.21 The relationship between the international concepts of earnings, compensation of employees, labour costs, and employment-related income is illustrated in diagram 12.4. The notion of wages as 'remuneration to the job holder' underlies the concepts of earnings and employment-related income, while the notion of wages as 'employer payments for labour services' underlies the concepts of compensation of employees and labour costs. The narrowest concept outlined in the international guidelines is that of earnings. Concepts of compensation of employees, labour costs, and employment-related income all include and extend upon the concept of 'earnings'.

### **12.4 COMPARISON OF CONCEPTS OF EARNINGS, COMPENSATION OF EMPLOYEES, LABOUR COSTS, AND EMPLOYMENT-RELATED INCOME**



## DEFINITIONS AND MEASURES USED IN ABS SURVEYS

### WAGES

12.22 While the ABS does not produce estimates of wages per se, a range of wages statistics are produced based on the alternative notions of wages as remuneration to the job holder (e.g. earnings statistics) and wages as employer payment for labour services (e.g. statistics of compensation of employees and labour costs).

### EARNINGS

12.23 Estimates of earnings are produced from a number of ABS surveys and include measures of average weekly earnings, earnings distributions, and earnings composition. The definition of earnings used varies across different surveys as discussed below.

#### Earnings definitions used in ABS business surveys

Survey of Average Weekly Earnings and Survey of Employee Earnings and Hours

12.24 The surveys of Average Weekly Earnings (AWE) and Employee Earnings and Hours (EEH) are designed to produce estimates of average weekly earnings at a point in time (on a quarterly basis in AWE, and on a biennial basis in EEH), and the definition used in these surveys aligns closely with the international definition for current earnings.

12.25 Components of earnings collected in AWE and EEH are limited to:

- remuneration for time worked or work done - ordinary time and overtime pay, penalty payments, commissions (only if a retainer/wage/salary is paid), taxable (**footnote 1**) employee allowances (e.g. allowances for shift work, site, dirt and height allowances), incentive and piecework payments;
- remuneration for time not worked - including paid leave and public holidays falling within the reference period, and workers' compensation payments if paid through the payroll; and
- bonuses and gratuities - includes regular bonuses (e.g. paid weekly, fortnightly or quarterly), and payments made under profit sharing schemes usually paid each pay period.

12.26 The following components of remuneration are excluded from AWE and EEH earnings measures:

- payments in kind (includes salary packaging/sacrifice) - payments in kind have traditionally been excluded from ABS earnings measures for practical reasons, information on such payments not being readily available from payrolls; and
- all other payments that are irregular or not related to the survey reference period - these include retrospective pay; pay in advance; severance, termination and redundancy pay; leave loadings; and annual and irregular bonuses.

12.27 The exclusion of payments in kind is not consistent with international guidelines. Apart from this, the definition of earnings used in AWE and EEH is consistent with the international guidelines for measures of current earnings.

## Other ABS business surveys

12.28 Earnings statistics are also produced from the Survey of Employment and Earnings (gross quarterly earnings), the Labour Costs Survey (gross annual earnings and average annual earnings per employee), and the Wage Cost Index (quarterly change in hourly rates of pay). Unlike the surveys of AWE and EEH, these surveys are not designed to produce estimates of the concept of 'earnings' per se, but estimates of the broader concepts of 'compensation of employees', 'labour costs', or measures related to these concepts. As such, these surveys generally define earnings more broadly than EEH and AWE, and estimates are not comparable across surveys.

12.29 Estimates from the Survey of Employment and Earnings (SEE) are used in the production of estimates of the 'value of employee entitlements' component of 'compensation of employees' for the Australian National Accounts. The definition of earnings used in the survey extends the definition used in AWE and EEH. It comprises 'earnings' as defined for AWE and EEH, as well as: irregular payments (such as irregular bonuses and gratuities); payments which may not relate solely to the reference period (such as pay in advance; retrospective pay; and severance, termination and redundancy payments); and fees paid to directors and office holders. However, fees paid to directors and office holders, and severance, termination and redundancy payments, are separately identified in the survey and separate estimates can be produced for these earnings components. Unlike AWE and EEH, which are designed to estimate average earnings levels at a point in time, SEE is designed to estimate earnings flows to employees over a three month period. For further information on the earnings definition used in SEE, refer to paragraph 12.46. For further information on the content and methodology of the survey, refer to **Chapter 31**.

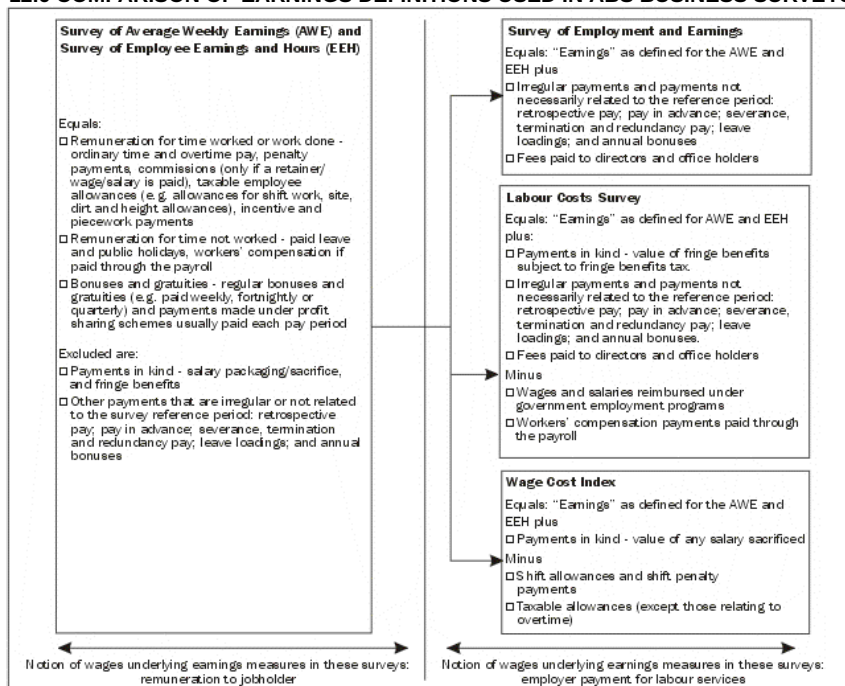
12.30 The Labour Costs Survey is designed to produce estimates of employers' labour costs, and estimates of earnings are produced as a component of total labour costs. A broader definition of earnings is also used in the Labour Costs Survey. It comprises 'earnings' as defined for AWE and EEH, as well as: some payments in kind (value of fringe benefits subject to fringe benefits tax); irregular payments; payments which may not relate solely to the reference period (including severance, termination and redundancy payments); and fees paid to directors and office holders. Wages and salaries reimbursed under government employment programs, and workers' compensation payments paid through the payroll, are excluded. Like SEE, the Labour Costs Survey is designed to produce estimates of earnings flows over a twelve month period. For further information on the earnings definition used in the Labour Costs Survey, refer to paragraph 12.55. For further information on the content and methodology of the survey, refer to **Chapter 28**.

12.31 The Wage Cost Index (WCI) is a price index measuring changes in wage and salary costs in the Australian labour market, unaffected by changes in the quality and quantity of work performed. The survey tracks employee jobs and measures changes in the price of labour (hourly rates of pay) associated with those jobs. The definition of 'wage and salary costs' used in the survey aligns closely with the international definition of earnings. However, as the WCI is a price index, changes in payments relating to the quality and/or quantity of work performed (which are included in the international earnings definition, and in AWE and EEH) are excluded. Also excluded are: shift allowances and shift penalty payments; and taxable allowances. The reference period for the WCI is short (one week), except for bonuses which are collected in respect of a three month period. For further information on the definition of wage and salary costs used in the WCI, refer to paragraph 12.58. For further information on the content and methodology of the WCI, refer to **Chapter 32**.

## Relationship between earnings definitions used in ABS business surveys

12.32 The relationship between the alternative definitions of earnings used in ABS business surveys is illustrated in diagram 12.6. The notion of wages as 'remuneration to the job holder' underlies the concepts of earnings measured in AWE and EEH, while the notion of wages as 'payments for labour services' underlies the concepts of earnings measured in SEE, the Labour Costs Survey and the WCI.

### 12.6 COMPARISON OF EARNINGS DEFINITIONS USED IN ABS BUSINESS SURVEYS



## Earnings definitions used in ABS household surveys

12.33 Earnings measures used in ABS household surveys generally relate to gross payments received from either the main job or all jobs during the reference period. Adjustments are generally not made to exclude components of pay that may be outside the international earnings definition (such as irregular bonuses), and components of pay that may not relate to the reference period (such as retrospective pay and pay in advance). Earnings measures produced from ABS household surveys are restricted to cash earnings, i.e. they exclude payments in kind.

## Earnings measures and classifications used in ABS business surveys

### Average weekly earnings

12.34 Estimates of average weekly earnings are derived by dividing estimates of gross weekly earnings by estimates of number of employee jobs. Average weekly earnings represents the average gross (before tax) earnings of employee jobs. It does not relate to average award rates of pay nor to the earnings of the 'average employee'.

12.35 Changes in averages may be affected not only by changes in the underlying rates of pay, but also by changes in the weekly hours worked (or paid for) and by changes in the composition of jobs in the workforce. Compositional changes can be the result of variations in the proportions of full-time, part-time, casual, adult and junior employment, variations in the occupational distribution within and across industries, variations in the distribution of employees between industries, and variations in the proportions of males and females employed.

#### Average hourly earnings

12.36 Estimates of average hourly earnings for non-managerial employees are available from the EEH survey. These estimates are derived by dividing estimates of gross weekly earnings by estimates of total weekly hours paid for.

#### Composition of earnings

12.37 Measures of the composition and components of (average weekly) earnings are available only from ABS business surveys. The components of earnings include:

- base pay;
- payment by measured result;
- ordinary time earnings; and
- overtime pay.

12.38 **Base pay** is defined as the award pay or agreed rate of pay (see below) for ordinary time hours paid for. For jobs held by employees whose pay is set in an award or an agreement (either collective or individual), the weekly base rate of pay includes overaward (or overagreement) pay and all taxable allowances (dirt, height, tool, etc.) and penalty payments (e.g. shift loadings) specified in the award or agreement (**footnote 2**). Base pay excludes payment by measured result and overtime pay, but includes regular bonuses (paid quarterly or more frequently) that are unrelated to individual performance. For jobs held by employees whose pay is not covered by an award or formal (registered) agreement, base pay is the agreed wage for ordinary time hours paid for. Estimates of the components of ordinary time earnings, including base pay, are available from EEH.

12.39 **Payment by measured result** refers to earnings which vary according to the measured performance of the jobholder e.g. piecework, production and task bonuses, and commissions. Estimates of the components of ordinary time earnings, including payment by measured result, are available from EEH.

12.40 **Ordinary time earnings** is equal to base pay plus payment by measured result. Overtime pay is excluded. Estimates of ordinary time earnings are available from AWE and EEH.

12.41 **Overtime payments** are payments for hours worked in excess of award, standard or agreed hours and reported as paid overtime. See **Chapter 4** for the definitions of award, standard and agreed hours. Estimates of overtime payments are available from EEH.

#### Earnings measures and classifications used in ABS household surveys

##### Average weekly earnings

12.42 Estimates of average weekly earnings of employees are derived by dividing estimates of gross weekly earnings by estimates of number of employees. Average weekly earnings represents the average gross (before tax) earnings of employees. It does not relate to average award rates of pay nor to the earnings of the 'average employee'. See the discussion above on the effects on average weekly earnings of changes to: the level of earnings; weekly hours worked; and the composition of jobs in the workforce.

##### Median weekly earnings

12.43 Median weekly earnings is defined as the earnings amount which divides the earnings distribution into two groups with equal numbers of employees, one half having weekly earnings below the median and the other half having weekly earnings above the median.

#### COMPENSATION OF EMPLOYEES

12.44 Estimates of compensation of employees are compiled for the Australian National Accounts. The definition of compensation of employees used in the Australian National Accounts is discussed below.

##### Australian National Accounts

12.45 The 'compensation of employees' component of the Australian National Accounts consists of payments made by employers to their employees for services rendered. It has two components: 'wages and salaries'; and 'employers social contributions'. Wages and salaries comprise the value of employee entitlements, including those paid in cash and in kind, and changes in provisions for future employee entitlements (not currently implemented in the Australian National Accounts). Employers' social contributions are contributions by employers to pension and superannuation funds, and premiums paid by employers to workers' compensation schemes covering occupational injuries and diseases.

12.46 Wages and salaries paid in cash is sourced mainly from the ABS Survey of Employment and Earnings (SEE), and comprises 'earnings' as defined above for AWE and EEH, as well as:

- retrospective pay;
- pay in advance;
- directors' and office holders' fees;

- severance, termination and redundancy payments;
- leave loadings; and
- irregular bonuses and gratuities.

12.47 However, it is necessary to make adjustments to the SEE estimates:

- to account for wages and salaries associated with employee jobs that are excluded from SEE but are in scope of the Australian National Accounts - includes the Australian defence forces, Australian embassies and consulates overseas, and the Agriculture, forestry and fishing industries;
- to account for undercoverage of employee jobs in SEE; and
- to account for payments in kind.

12.48 Estimates of employee jobs and earnings obtained from SEE are used in conjunction with estimates from the Labour Force Survey (and various other sources), to obtain estimates of total employee wages and salaries. The employers' social contributions component is derived from a number of sources including the Survey of Labour Costs (see discussion below) and administrative data from State and Commonwealth Government Departments and Agencies. For further information on how estimates are obtained see **Australian National Accounts: Concepts, Sources and Methods** (Cat. no. 5216.0).

12.49 The 'compensation of employees' component of the Australian National Accounts is consistent with international guidelines on employee compensation except for: changes in provisions for future employee entitlements (not yet implemented); and the classification of certain leave and severance payments - severance, termination and redundancy payments, sick leave payments, and payments for forms of leave other than annual leave and long service leave - which are all classified as wage and salary payments rather than employers' social contributions.

12.50 As far as possible, estimates of compensation of employees are made on an accrual basis. Estimates from SEE can be produced on either a cash or pay-day adjusted basis (**footnote 3**). Pay-day adjusted estimates are used to derive estimates of the total employee wages and salaries component of compensation of employees in the Australian National Accounts.

## LABOUR COSTS

12.51 Estimates of labour costs are produced from two main ABS business surveys: (i) the quarterly WCI which provides a measure of the quarterly change in the wage and salary component of labour costs; and (ii) the five yearly Labour Costs Survey which, in addition to wages and salaries, provides estimates of other components of labour costs. An annual Labour Price Index (LPI) is currently under development and will add non-wage costs to the existing WCI.

12.52 Estimates from these surveys differ in a number of respects. While estimates of labour costs from the Labour Costs Survey are of **total labour costs** incurred by employers in the employment of labour, estimates from the LPI will be of **changes to the 'price' of labour**. Estimates from the WCI are of **changes to the wage and salary component of the price of labour**. Two distinctions should be made between these estimates. The first relates to the measure of labour costs being used i.e. **a price index** (LPI and WCI) unaffected by changes in the quality or quantity of work performed, compared with measures of **flows over a twelve month period** (Labour Costs Survey). The second distinction relates to the labour cost concept being measured i.e. **total labour costs** (LPI and Labour Costs Survey) versus **wage and salary costs** (WCI).

12.53 The ABS derives, or will derive, price indexes, as indicators of labour costs, from both the WCI and the future LPI. These indexes measure changes to the hourly price of employee jobs paid by employers. Their purpose is to measure only the labour market related price changes in the hourly rates paid by employers to their employees for ordinary-time and overtime work, i.e. without having to take into consideration changes to the occupational structure, changes in the composition of the labour force, changes in the quantity of work (i.e. number of hours) undertaken, changes in the quality of work performed, or other extraneous factors.

12.54 Measures of labour costs from the Labour Costs Survey, however, relate to the aggregate cost incurred by employers in the employment of labour. Changes to employers' total labour cost levels can occur for a variety of reasons other than changes to the price paid for labour services (i.e. rates of pay). These include: changes to the size of their workforce; changes to the composition and occupational structure of their workforce (i.e. changes to the mix of part-time and full-time jobs, changes to the mix of high and low skilled jobs, and changes across industries); and changes to the quantity of work needed to complete a task (i.e. a reduction or increase in hours worked). Estimates of changes in total labour costs from the Labour Costs Survey therefore differ from, and are not comparable with, estimates of changes in the hourly price of labour from the WCI and the forthcoming LPI.

12.55 The following components of labour cost are included in the definition used in the Labour Costs Survey:

- earnings as defined above for AWE and EEH;

plus:

- payments in kind - the value of fringe benefits subject to fringe benefits tax;
- all other payments that are considered irregular and thus excluded from AWE and EEH - these include retrospective pay; pay in advance; severance, termination and redundancy pay; leave loadings; and irregular and annual bonuses;

minus:

- wages and salaries reimbursed under government employment programs;
- workers' compensation payments paid through the payroll;
- superannuation costs - employers' contributions to employee superannuation schemes including employee wages and salaries 'sacrificed' into superannuation contribution payments;
- workers' compensation costs - employers' contributions to workers' compensation insurance schemes plus any other costs not reimbursed by insurers;
- fringe benefits tax; and

- payroll tax.

12.56 The following costs, defined in the international guidelines as labour costs, are excluded from the Labour Costs Survey:

- employers' costs of vocational training;
- employers' costs associated with employee welfare services; and
- recruitment costs.

12.57 The LPI will eventually measure changes in the price paid for labour services covering wages and salaries (measured by the WCI) plus the following non-wage items: paid leave; employer funded superannuation; payroll tax; workers' compensation; fringe benefits; and fringe benefits tax. When fully developed, the components of labour costs measured in the LPI will be consistent with those measured in the Labour Costs Survey (**footnote 4**). It is expected that collection of data for the compilation of subindexes including superannuation, paid leave and public holidays will commence from late 2001, with publication from 2003.

12.58 Currently the LPI produces quarterly changes in wage and salary costs as measured by the WCI. This definition comprises:

- payments in kind - the value of any salary sacrificed, but excluding the value of payments in kind that cannot be salary sacrificed ; and
- all components of earnings as defined above for AWE and EEH except:
  - shift allowances and shift penalty payments; and
  - taxable allowances.

12.59 The definition of wage and salary costs used in the WCI differs from the definition of earnings used in the Labour Costs Survey. Included in the Labour Costs Survey but excluded from the WCI are: shift allowances and shift penalty payments; taxable allowances; and fringe benefits. As the WCI is a price index, it also excludes changes in payments relating to the quality and/or quantity of work performed which are included in 'earnings' in the Labour Costs Survey. The value of any salary sacrificed, one component of payment in kind, is also included in the WCI but excluded from the Labour Costs Survey.

## LABOUR COSTS MEASURES AND CLASSIFICATIONS

### Labour Costs Survey

12.60 The Labour Costs Survey is designed to produce estimates of employers' labour costs. The survey is conducted on a five yearly basis and a 12 month reference period is used. Estimates are produced on a cash basis i.e. they reflect actual payments made in the annual reference period. As such they do not reflect costs incurred in the reference period for which payments are made in an earlier or later period, but they include payments made in the survey reference period for costs incurred in an earlier or later period. Measures of labour costs available from the Labour Costs Survey include total labour costs, composition of total labour costs and average labour costs per employee. The latter two measures are discussed further below.

#### Composition of total labour costs

12.61 Measures of the composition and components of total labour costs are only available from the Survey of Labour Costs. The components of labour costs include:

- earnings;
- superannuation;
- payroll tax;
- workers' compensation; and
- fringe benefits tax.

12.62 **Earnings** - the same definition of earnings is used for the Survey of Labour Costs as is used for AWE and EEH except for: certain payments in kind and irregular earnings, which are included in the Survey of Labour Costs but excluded from AWE and EEH; wages and salaries reimbursed under government programs, which are excluded from the Survey of Labour Costs but included in AWE and EEH; and workers' compensation payments paid through the payroll, which are excluded from the Survey of Labour Costs but included in AWE and EEH. A fuller description of earnings from the Survey of Labour Costs is provided in paragraph 12.55.

12.63 **Superannuation** comprises employer-funded contributions to superannuation funds on behalf of employees. Contributions by employees are excluded. Readers should note that due to the different funding arrangements adopted in the public and private sectors, estimates of superannuation from the survey are not directly comparable between the sectors, as explained below.

12.64 Historically, public sector superannuation has been handled differently to that of the private sector. Public sector superannuation schemes can be either 'fully funded', i.e. where funds are set aside in advance to meet future liabilities, similar to most private sector schemes, or they can be 'unfunded', i.e. met on an 'emerging cost' basis where costs are met only as the liability becomes due. Increasingly, public sector schemes are of the fully funded type. Private sector superannuation schemes are fully funded. In the 1996-97 survey, individual Commonwealth general government organisations recorded regular employer superannuation contributions in their budgets in respect of unfunded schemes. In the 1993-94 survey, individual Commonwealth general government agencies did not report these costs in respect of unfunded superannuation schemes, as they were not recorded in agency budgets.

12.65 In addition, the costs of public sector superannuation can be met on two bases:

- Costs can be met from the annual budgets of individual agencies, although these employer superannuation contributions may not necessarily be paid directly into superannuation funds. Agency-funded employer superannuation contributions are included in the

superannuation estimates from this survey.

- The Commonwealth Government and the State Governments can meet the costs directly from consolidated funds. The costs paid out of consolidated funds are not collected in the survey, but separate estimates of net expenditure on superannuation by general government are included in the survey publication **Labour Costs, Australia** (cat. no. 6348.0).

12.66 **Payroll tax** is defined as the amount of tax paid during the survey reference year in respect of the gross wages and salaries of employees, net of any rebates. Payroll tax assessed for payments to contractors and other persons not considered as employees is excluded.

12.67 **Workers' compensation** is defined as the cost to the employer in providing workers' compensation cover for employees. There are three ways to meet these costs:

- The majority of employers pay a premium to an insurer. In this case, workers' compensation costs are considered to comprise: premiums paid during the survey reference year including the component that covers an employee for common law damages; and any workers' compensation costs not reimbursed by the insurer including 'make-up' and 'excess' pay.
- Some larger employers may become 'self-insurers' and cover most costs themselves. Workers' compensation costs are considered to comprise: lump sum payments and payments made as part of employee earnings; premiums paid during the year to offset liability at common law for workers' compensation; and any other costs, including common law costs not reimbursed by the insurer, such as legal, accounting, medical and administrative costs.
- In the public sector, some workers' compensation costs are paid from consolidated funds. In most cases these payments relate to liabilities incurred under prior legislation. The amounts paid from consolidated funds are not collected in the survey, but separate estimates are included in the survey publication **Labour Costs, Australia** (cat. no. 6348.0).

12.68 **Fringe benefits tax** is defined as the tax payable in respect of most fringe benefits provided by employers to employees. Generally, tax is payable on the gross taxable value of the benefits (**footnote 5**) in the fringe benefits tax year, 1 April to 31 March. Not all organisations which provide fringe benefits to their employees are required to pay fringe benefits tax.

12.69 Fringe benefits are non-cash remunerations (e.g. use of cars, low cost housing loans and accommodation) provided to employees as part of their employment packages.

Labour costs per employee

12.70 Estimates of labour costs per employee are derived by dividing estimates of total labour costs by estimates of numbers of employee jobs. Labour costs per employee represent the average labour costs of employee jobs. They do not relate to the labour costs of the 'average employee'.

12.71 Changes in labour costs per employee may be affected not only by changes in the underlying level of labour costs, but also by changes in the size and composition of the workforce and in hours worked.

### Wage Cost Index

12.72 The Wage Cost Index comprises four sets of component price indexes:

- ordinary time hourly rates of pay - excluding bonuses;
- ordinary time hourly rates of pay - including bonuses;
- total hourly rates of pay - excluding bonuses; and
- total hourly rates of pay - including bonuses.

12.73 The indexes that **exclude** bonuses are 'pure' price indexes: i.e. they aim to measure changes over time in the wage and salary cost of a representative 'basket' of jobs, unaffected by changes in the quality or quantity of work performed. This is referred to as 'pricing to constant quality'. These indexes are unaffected by shifts in the distribution of employees across occupations and industries, and between full-time and part-time jobs.

12.74 The **ordinary time** indexes that exclude bonuses measure quarterly changes in ordinary time hourly wage and salary rates. Changes in rates of pay reflected in these indexes arise from a range of sources including award variations, enterprise and workplace (collective) agreements, centralised wage fixation, and individual contracts and agreements. These indexes are not affected by changes in penalty payments (which fluctuate depending on the number of hours paid at penalty rates), changes in allowances (which fluctuate according to how much work is performed under special conditions e.g. height, dirt, heat allowances) or changes in bonus payments (which may, or may not, relate to an individual's work performance). Specifically, the following costs are excluded from the ordinary time hourly rates of pay indexes:

- penalty payments for overtime, shifts, weekends and public holidays;
- ordinary time and overtime allowances; and
- bonus payments.

The effect of rolling ordinary time penalty payments and allowances into ordinary time hourly rates is excluded from these indexes. However, when overtime penalty payments are rolled into ordinary time hourly rates, the ordinary time indexes will increase accordingly.

12.75 The **total hourly** indexes that exclude bonuses are based on a weighted combination of ordinary time hourly rates (described in paragraph 12.74) and overtime hourly rates. The combined hourly rates reflect changes in ordinary time hourly rates as well as changes in overtime hourly rates. The effect of changes in the amount of overtime paid at each overtime rate is not reflected in these indexes except when overtime penalty payments are rolled into ordinary time hourly rates. However, when this occurs, the increase in the ordinary time hourly rate will tend to be offset by the elimination of the higher overtime hourly rate, leaving the total hourly indexes largely unchanged.

12.76 The indexes that **include** bonuses reflect the changes in wages and salary rates shown in the pure price indexes, as well as changes in bonus payments; hence they tend to be more volatile than the pure price indexes. Bonus payments are converted to an 'hourly rate' based on the relevant period of work. This hourly rate is then added to the respective hourly wage and salary rates (ordinary time and total hourly) to construct indexes that include bonuses.

## **EMPLOYMENT-RELATED INCOME**

12.77 The ABS does not produce estimates of employment-related income as defined in the international guidelines. However, data are collected on the broader measure of income in a number of household collections. The concepts underlying measures of income collected in ABS household surveys are outlined in the ABS's **A Provisional Framework for Household Income, Consumption, Saving and Wealth 1995** (cat. no. 6549.0). The definition of income outlined in the framework is reproduced below and briefly contrasted with the definition of employment-related income.

### **Income**

12.78 The framework defines income as "those receipts (in cash and in-kind) that are of a regular and recurring nature, and are received by the household or its members at annual or more frequent intervals. It includes regular receipts from employment, own business and from the lending of assets. It also includes transfer income from government, private institutions and other households. Income also includes the value of services provided from within the household via the use of an owner-occupied dwelling, other consumer durables owned by the household and unpaid household work. Income excludes capital receipts that are considered to be an addition to stocks, and receipts derived from the running down of assets or from the incurrence of a liability. It also excludes intra-household transfers".

12.79 This definition of income is broader than the definition for 'employment-related income'. It encompasses a number of payments (in cash and in kind) that are not related to employment and thus excluded from the definition of 'employment-related income'. Examples of payments excluded from the definition of 'employment-related income' include:

- transfer income, such as government income support (e.g. pensions, benefits and allowances received from governments) that is not related to employment - in Australia, most government income support is not employment-related;
- income from superannuation schemes (e.g. pensions and annuities) that is not employment-related - such as incomes from schemes where contributions were not related to employment (e.g. investments of inheritance in superannuation/annuity schemes);
- property income that is not related to employment - such as returns from financial assets (e.g. interest, dividends), from non-financial assets (e.g. rent) and from royalties; and
- the value of services provided from within the household via the use of an owner-occupied dwelling, other consumer durables owned by the household and unpaid household work. It should be noted, however, that these elements of income are not currently included in ABS household survey based estimates of income.

12.80 It should also be noted that while the framework defines income as including in-kind receipts, ABS household surveys usually exclude them from estimates of income, or only include a small number of in-kind elements.

## **DATA SOURCES**

### **EARNINGS**

12.81 Estimates of earnings are available from:

- the Survey of Average Weekly Earnings;
- the Survey of Employee Earnings and Hours;
- the Survey of Employment and Earnings; and
- the Employee Earnings, Benefits and Trade Union Membership Survey (a supplement to the Labour Force Survey).

12.82 Earnings measures are also available from the Labour Costs Survey (estimates of earnings are produced as a component of total labour costs) and the Wage Cost Index (a price index of change in wage and salary costs incurred by employers). Both surveys collect information about employers' labour costs. In addition to employee earnings, the Labour Costs Survey collects information on a range of other costs incurred by employers in the employment of labour. Both surveys are discussed further below.

#### **Survey of Average Weekly Earnings**

12.83 The quarterly Survey of Average Weekly Earnings produces a range of estimates of average weekly earnings paid per employee job. The following estimates are produced: average weekly ordinary time earnings for full-time adults; average weekly total earnings for full-time adults; and average weekly total earnings for all employee jobs (i.e. whether full-time or part-time, or whether paid at adult or junior rates). These estimates can be classified by sex, sector, industry and State/Territory. The definition of earnings used in the survey is specified in paragraphs 12.24-12.27. Also discussed above (paragraphs 12.34-12.41) are the earnings measures available from ABS business surveys, including estimates of average weekly earnings. For more detail on the content and methodology of the Survey of Average Weekly Earnings see **Chapter 29**.

#### **Survey of Employee Earnings and Hours**

12.84 The biennial Survey of Employee Earnings and Hours produces estimates of earnings distributions and average weekly earnings classifiable by sex, adult/junior status, managerial/non-managerial status, full-time/part-time status, hours paid, components of pay, occupation, industry, sector, level of government, State/Territory, and method of setting pay. This survey also produces estimates of average hourly total earnings for non-managerial employees, classified by male/female, permanent/temporary/casual, State/Territory, and method of setting pay. The definition of earnings used in the survey is outlined in paragraphs 12.24-12.27. Also discussed above (paragraphs 12.34-12.41) are the earnings measures available from ABS business surveys, including measures of average weekly earnings and the

various components of pay, except for method used to set pay which is discussed in **Chapter 13**. For more detail on the content and methodology of the Survey of Employee Earnings and Hours see **Chapter 30**.

### Survey of Employment and Earnings

12.85 The quarterly Survey of Employment and Earnings produces estimates of total quarterly 'earnings'. Estimates of the following earnings components are produced: gross wages and salaries; severance, termination and redundancy payments; and fees paid to directors and office holders. Estimates are classifiable by full-time/part-time status, sector, level of government, public institutional sector (SISCA), industry, and employer unit size (private sector only). The definition of earnings used in the survey is broader than that used in AWE and EEH and is outlined in paragraph 12.29. For more detail on the content and methodology of the Survey of Employment and Earnings see **Chapter 31**.

### Supplementary Survey: Employee Earnings, Benefits and Trade Union Membership Survey

12.86 An annual supplementary topic to the Labour Force Survey, Employee Earnings, Benefits and Trade Union Membership produces estimates of: average weekly earnings per employee (referred to as mean weekly earnings in the publication). Separate estimates are produced for earnings in main, second and all jobs held by employees; median earnings; and earnings distributions. Estimates are produced for both main job and all jobs, classifiable by a range of socio-demographic and economic variables including age, birthplace, sex, relationship in household, State/Territory of usual residence, industry, occupation, sector, full-time/part-time and hours paid. The definition of earnings used in the survey is outlined in paragraph 12.33. Also discussed above (paragraphs 12.42-12.43) are the earnings measures available from the survey. Caution should be exercised when using earnings estimates from this survey. Estimates from the survey are likely to have a significant downward bias when compared with estimates of earnings from business surveys such as AWE and EEH. This is a result of recall problems encountered by respondents when providing details of their earnings during a personal interview. In contrast, respondents to business surveys generally source earnings details directly from payroll records. For more detail on the content and methodology of the Employee Earnings, Benefits and Trade Union Membership Survey refer to **Chapter 21 Section 2**.

### COMPENSATION OF EMPLOYEES

12.87 As discussed above, 'compensation of employees' is a component of the Australian National Accounts. Estimates of compensation of employees are contained within the Income Accounts of the Australian National Accounts which are published in **Australian System of National Accounts** (cat. no. 5204.0). For further information on how estimates are obtained see **Australian National Accounts: Concepts, Sources and Methods** (cat. no. 5216.0).

### LABOUR COSTS

12.88 Estimates of total labour costs are available from:

- the Labour Costs Survey; and
- the Business Operations and Industry Performance Series.

12.89 Indexes of changes in hourly labour costs for employee jobs are available from:

- the Wage Cost Index; and
- the Melbourne Institute Wages Report.

### Labour Costs Survey

12.90 The Labour Costs Survey collects data on the main costs incurred by employers as a consequence of employing labour. All data are collected on a cash basis i.e. they reflect actual payments made in the survey reference period. As such they do not reflect costs incurred in the reference period for which payments are made in a later period, but they include payments made in the survey reference period for costs incurred in a prior period. The survey has a 12 month (financial year) reference period and is conducted five yearly. Estimates of labour costs are produced for the private and public sectors, and include: employee earnings; employer payments for superannuation; workers' compensation; payroll tax and fringe benefits tax. Estimates of total labour costs and costs per employee job can be cross classified by State/Territory, industry, sector, level of government and employer size. The definition of labour costs used in the survey is specified in paragraphs 12.55-12.56. Also discussed above (paragraphs 12.60-12.71) are the labour costs measures available from the survey. For more detail on the content and methodology of this survey see **Chapter 28**.

### Business Operations and Industry Performance Series

12.91 Estimates of labour costs from the Business Operations and Industry Performance series are derived using a combination of data from the annual ABS Economic Activity Survey and business income tax data provided by the Australian Taxation Office. This series defines labour costs more narrowly than the Labour Costs Survey. Labour costs are restricted to: wages and salaries paid to employees; employer contributions to superannuation; and workers' compensation. Severance, termination, and redundancy payments are included in wages and salaries. For further information on data content and collection methodologies of this series, readers should refer to **Business Operations and Industry Performance, Australia** (cat. no. 8140.0).

### Wage Cost Index

12.92 The Wage Cost Index provides a measure of change in wage and salary costs in the Australian labour market, unaffected by changes in the quality and quantity of work performed. The Wage Cost Index is a Laspeyres price index which measures changes over time in wage and salary rates of pay for employee jobs. A Laspeyres price index measures the change in the price between the current period and the price at a given base period, with the quantity and quality of 'goods and services' (in the case of the Wage Cost Index, the quality and quantity of labour services) being held constant. The Wage Cost Index comprises four sets of quarterly indexes: ordinary time hourly rates of pay excluding bonuses; ordinary time hourly rates of pay including bonuses; total hourly rates of pay excluding bonuses; and total hourly rates of pay including bonuses. Each of these indexes is described more fully above (paragraphs 12.72-12.76). Also set out above (paragraph 12.58) is the definition of wage and salary costs used in the Wage Cost Index. For more detail on the content and methodology of this survey see **Chapter 32**.

### Melbourne Institute Wages Report

12.93 The Melbourne Institute of Applied Economic and Social Research (University of Melbourne) also produces measures of change in wage rates for total and base pay (these measures are referred to as Pay Indicators) in its quarterly **Melbourne Institute Wages Report**. The collection methodology used by the Melbourne Institute to produce its Total and Base Pay Indicators differs significantly from that used by the ABS to construct the Wage Cost Index, and this should be borne in mind by readers when comparing estimates of wage rate changes across the two collections. For further information on the collection methodology of the Wage Cost Index see references listed above; a brief overview of the collection methodology used to construct the Pay Indicators is provided below.

Overview of methodology for Melbourne Institute's Pay Indicators

12.94 The sample is drawn from the Melbourne Institute's Consumer Sentiment Survey of Australian adult residents. Information is collected on percentage changes to total and base wage rates, over a 12 month period, from persons who have been employed in the same job for the preceding 12 months. The final sample used to construct the Pay Indicators averages around 400-450 persons. Changes in wage rates are weighted averages of responses provided to questions: "By what percentage has your base pay changed over the last 12 months?" and "By what percentage has your total pay changed over the last 12 months". For further information, refer to the **Melbourne Institute Wages Report**.

## EMPLOYMENT-RELATED INCOME

12.95 There are no known sources of data for employment-related income. However, measures of the broader concept of 'income' are available from a number of ABS household collections including:

- the Survey of Income and Housing Costs;
- the Household Expenditure Survey; and
- the Census of Population and Housing.

### Survey of Income and Housing Costs

12.96 The Survey of Income and Housing Costs collects detailed information on cash income only (no data are collected on income in kind) according to the ABS framework. For more detail on the content and methodology of the survey refer to **Income Distribution, Australia** (Cat. no. 6523.0).

### Household Expenditure Survey

12.97 The Household Expenditure Survey also collects detailed information on income according to the ABS framework. Some information is collected on income in kind (namely consumable goods provided by employers). For more detail on the content and methodology of the survey refer to **1998-99 Household Expenditure Survey, Australia: Summary of Results** (Cat. no. 6530.0).

### Census of Population and Housing

12.98 The Census of Population and Housing collects information on total income levels only. Estimates cannot be classified according to type of income. The Census does not support measures of 'employment-related income'. For more detail on the content and methodology of the Census refer to **Chapter 20**.

## FURTHER INFORMATION

12.99 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. Non-taxable allowances (e.g. for tools, clothing, equipment) are excluded from earnings (as well as compensation of employees and labour costs) as they are generally reimbursements to employees for expenditure by them in the course of their work. ( In the national accounts, the amounts reimbursed are treated as intermediate consumption.) **<back**
2. Refer to **Chapter 13** for definitions of awards and agreements. **<back**
3. While earnings data in SEE are collected on a cash basis, information is also collected which enables accurate adjustment of earnings estimates to a 'time payable' basis. **<back**
4. The value of any salary sacrificed to superannuation will be excluded from estimates of quarterly change in superannuation costs produced by the LPI. This will avoid double counting, as salary sacrifice into superannuation is included in the WCI (paragraph 12.58). This treatment differs from the Labour Costs Survey, where salary sacrificed into superannuation is included in the superannuation component of labour costs, rather than the earnings component (paragraph 11.55). **<back**
5. Gross taxable value of the benefits - fringe benefits tax is paid on the value of the benefits provided although exemptions apply to some categories of benefits (such as superannuation). **<back**

[Previous Page](#)

[Next Page](#)

## Chapter 13. Industrial Relations

[Contents >> Concepts and Sources >> Chapter 13. Industrial Relations](#)

**Labour Statistics: Concepts, Sources and Methods** was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.

## INTRODUCTION

13.1 Industrial relations can be regarded as the relationships and interactions in the labour market between employers and employees (and their representatives), and the intervention in these relations by governments, government agencies and tribunals (e.g. the Australian Industrial Relations Commission).

13.2 The field of industrial relations is complex and diverse and, for statistical purposes, is not easily measured. The ABS collects information on a number of topics to provide an insight into the state of the industrial relations environment. This chapter discusses statistics on: the different methods that are used to set pay of employees in Australia (such as awards, collective agreements and individual arrangements); trade union membership; and industrial disputes. Where they exist and are relevant, international guidelines relating to these statistics are also outlined. The chapter starts with a historical overview of industrial relations in Australia.

## **HISTORICAL OVERVIEW OF INDUSTRIAL RELATIONS IN AUSTRALIA**

13.3 Historically, governments have regulated the Australian labour market to varying degrees. Changes to the structure or processes underpinning the industrial relations environment have generally followed changes in governments, and periods of social or economic change. For most of the last century, employee-employer relationships were shaped by highly centralised Commonwealth and state tribunal-based systems of conciliation and arbitration. However, since the late-1980s, the industrial relations environment in Australia has undergone significant change and is now characterised by more decentralised arrangements.

13.4 Initially unions and employers opposed the establishment of a system of conciliation and arbitration. However, following a series of disastrous strikes in the 1890s, it was narrowly agreed at the Constitutional Conventions to include in the Australian Constitution powers of conciliation and arbitration for the prevention and settlement of industrial disputes that extended beyond the limits of any one State. The first legislation to put the Commonwealth's industrial power into effect was the Conciliation and Arbitration Act 1904, under which the Commonwealth Court of Conciliation and Arbitration (forerunner to the Australian Industrial Relations Commission) was established.

13.5 The Excise Tariff Act 1906, under which employers were granted tariff protection provided that a fair and reasonable wage was paid to their workers, proved attractive to both unions and employers. The first attempt to define a fair and reasonable wage was made in the Harvester case (1907). This case established the 'basic wage' and initiated an important principle of wage determination: that a fair and reasonable wage should be based on "the normal needs of the average employee, regarded as a human being living in a civilised community". The Harvester standard was used in making other awards; and the basic wage, with margin for skill, became the foundation wage rate.

13.6 The Federal system, with jurisdiction over matters extending beyond State borders, gradually became dominant over the individual State systems. By 1976 nearly 90% of the workforce had come under awards, of which nearly 40% came under Federal jurisdiction. By the mid 1980s there were over 9,000 separate awards with over 250,000 individual award classifications.

13.7 The nexus between tariff protection and the fair wage was weakened in 1973 when the then Labor government oversaw a reduction in overall tariff protection, in an attempt to open up the Australian economy to international competition.

13.8 The opening up of the Australian economy to international competition has continued since then. This in turn has resulted in a much greater emphasis being given to increases in productivity, improvements in work performance, the abolition of rules of demarcation, and workplace restructuring.

13.9 Coincident with these developments was an increased emphasis on agreement making and decentralised bargaining. Decentralisation related to movements away from centralised arbitration and conciliation arrangements (such as awards). These transformations have occurred in both the Commonwealth and State jurisdictions, although the timing and nature of industrial reforms have varied.

13.10 At the Federal level, the introduction of a series of bargaining principles (the Restructuring and Efficiency Principle, the Structural Efficiency Principle, and the Enterprise Bargaining Principle) by the Australian Industrial Relations Commission in 1991 provided a framework for decentralised bargaining and workplace reform. The Industrial Relations Reform Act 1993 encompassed provisions to better allow enterprise bargaining in non-unionised workplaces. The opening up of collective bargaining to workers not represented by unions meant that wages and employment conditions could be changed without unions being directly involved in negotiations. The Workplace Relations Act 1996 introduced further labour market reforms, enabling the development of individual worker agreements (Australian Workplace Agreements) as well as continuing collective worker agreements (Certified Agreements). The same legislation also facilitated the simplification of awards. At the same time, industrial reform also took place at the State level aimed at encouraging decentralised bargaining and workplace reform.

13.11 The level of trade union membership has been generally declining, coinciding the industrial changes noted above. For most of the last century the proportion of employees who were union members ranged between 42% and 62%. However, the 1990s witnessed significant reductions, to 26% in August 1999 and 23% in August 2003.

13.12 For most of the last century the combined effects of State and Federal industrial relations legislation encouraged unionism. One of the aims of the Conciliation and Arbitration Act 1904 was to facilitate and encourage the organisation of bodies of employers and of employees and the submission of industrial disputes to the Court by organisations. Unions played a critical role in the centralised tribunal based system - indeed the only parties that could request the settlement of a dispute by the Court under the Act were 'registered organisations', that is, unions of employers or employees. The granting of preference clauses in awards for engagement and retrenchment, to unionists over non-unionists, further promoted membership in unions.

13.13 In more recent times the roles of unions under State and Federal industrial relations legislation have been less pivotal. The emphasis on decentralised bargaining and the opening up of both collective and individual bargaining to workers not represented by unions have reduced the role of unions in the wage negotiation process. Restriction of the content of Federal awards to certain allowable matters has further encouraged workers to bargain for wages and other employment conditions outside of award provisions. Other reasons for the decline in union membership include the exclusion of union preference clauses from awards, changing public sentiment towards unions, declines in employment in industries that traditionally were highly unionised, and the emergence of new industries that are not unionised.

13.14 The level of industrial disputation in Australia has also decreased in recent years, with significant declines in strike and lockout activity since the 1980s. Traditionally, awards were the mechanism used by industrial tribunals to settle and prevent disputes, with unions bringing disputes (both 'actual disputes' and 'paper disputes') to the tribunals to improve the wages and other conditions of employment of their members. However, few disputes are now brought before the industrial tribunals for resolution. Those disputes that are brought before the tribunals tend to be of a longer duration and involve fewer workers. The majority of disputes tend to be short (one day or less in duration) and involve many workers.

13.15 Under decentralised bargaining systems, disputes are generally allowable (legal) only during the period in which employees and employers bargain on wages and other conditions of employment and only so long as the action is supporting or advancing claims in relation

to the enterprise bargaining. During the periods for which agreements are in place neither party may legally engage in industrial action (except over Occupational Health and Safety issues). However, disputes sometimes occur outside these periods.

## HOW PAY IS SET

13.16 Statistical measures relating to how employees' pay is set (such as awards and agreements) are used to monitor the effects of industrial and workplace relations reforms and wages policy.

## CONCEPTS AND INTERNATIONAL GUIDELINES

13.17 International guidelines on the production of statistical measures on how pay is set concern collective agreements (ICLS 1926) and relate to the numbers of, contents of, and employee coverage of collective agreements. A **collective agreement** is defined as "a written agreement concluded between one or more employers or an employers' organisation on the one hand, and one or more workers' organisations of any kind on the other, with a view to determining the conditions of individual employment, and in certain cases, to the regulation of other questions relative to employment".

## DEFINITIONS USED IN ABS SURVEYS

13.18 The ABS does not collect statistics on the numbers or contents of collective agreements as defined by ICLS guidelines described above. However, data about pay setting methods are collected in the ABS Survey of Employee Earnings and Hours (**footnote 1**). The definitions associated with these methods are outlined below.

13.19 The survey identifies the main method used to set pay for employees in Australia, and estimates the proportion of employees who had their pay set using each method. The methods used to set pay identified in the survey are:

- award only;
- collective agreement; and
- individual arrangement.

13.20 Employees who have their pay set by an award, and who are not paid more than the award rate of pay, are classified as having pay set by 'award only'. **Awards** are defined as legally enforceable determinations made by Federal or state industrial tribunals or authorities that set the terms of employment (pay and/or conditions) usually in a particular industry or occupation. Awards have been the traditional way of setting minimum pay and conditions in Australia. Employees on 'over-award' pay (i.e. paid at a certain amount or percentage above the rate of pay specified in an award) are classified as having their pay set by an unregistered individual arrangement.

13.21 Employees who have a collective agreement with their employer which sets the main part of their pay are classified as having their pay set by a collective agreement. A **collective agreement** is defined as an agreement between an employer (or group of employers) and a group of employees (or one or more unions or employee associations representing the employees). A collective agreement sets the terms of employment (pay and/or conditions) for a group of employees. Collective agreements are further classified as registered or unregistered, reflecting whether they are registered with a Federal or state industrial tribunal or authority.

13.22 Employees who have an individual agreement, contract or other arrangement with their employer which sets the main part of their pay, or are a working proprietor of an incorporated business, are classified as having pay set by an individual arrangement. An **individual arrangement** is defined as an arrangement between an employer and an individual employee on the terms of employment (pay and/or conditions) for the employee. Common types of individual arrangements are individual contracts, letters of offer and common law contracts. An individual contract (or letter of offer) may specify all terms of employment, or alternatively may reference an award for some conditions and/or in the setting of pay (e.g. over-award payments). Individual contracts are further classified as registered or unregistered, reflecting whether they are registered with a Federal or state industrial tribunal or authority (e.g. as an Australian Workplace Agreement). Working proprietors of incorporated businesses are regarded as having their pay set by an individual arrangement, and are identified separately in the individual arrangement category.

13.23 There are some differences between the international definition of collective agreement and that used in the Survey of Employee Earnings and Hours:

- the definition of collective agreements outlined in the international guidelines is broader than the definition used in the survey. The international definition encompasses both collective agreements and awards as defined in the ABS survey; and
- the definition of collective agreements outlined in the international guidelines is restricted to written agreements, whereas the survey definition includes both written and oral agreements.

## DATA SOURCES

13.24 Statistics on the characteristics of employees, their earnings and how their pay is set, for each of the methods of setting pay (award only, collective agreement, and individual arrangement), are currently produced from the biennial ABS business survey, the Survey of Employee Earnings and Hours. For more information on the content and collection methodology of this survey, refer to **Chapter 30**.

## NUMBERS AND CONTENTS OF COLLECTIVE AGREEMENTS

13.25 The ABS does not collect statistics on the numbers or contents of collective agreements as defined by ICLS guidelines described above. However, information of this type is available from other sources for collective agreements available under various State and Federal industrial relations jurisdictions. The amount and type of information available vary significantly, and readers should note that statistical measures produced are not necessarily consistent with international statistical guidelines or other ABS measures of the economically active population.

13.26 Measures of numbers of awards and collective agreements that have been arbitrated, certified or registered with industrial tribunals

are often published in the annual reports of the various State and Federal industrial relations tribunals. They are generally restricted to the numbers of awards and collective agreements registered over a given reference period, and may also include details of the numbers of awards and collective agreements currently in force and not replaced, and details of employees covered at registration date. Details of the numbers, employee coverage, wage outcomes and contents of certain types of collective agreements are also available from the Australian Centre for Industrial Relations Research and Training, the Federal Department of Employment and Workplace Relations (Federal certified agreements) and, from time to time, the equivalent State government departments.

## TRADE UNION MEMBERSHIP

13.27 Union membership in Australia has declined since the mid 1970s. The changing workplace relations environment is one of the key factors in the decline in trade union membership. Another factor is the change in the composition of the labour market, with a decline in jobs in the industries and types of employment (full-time permanent) that were traditionally highly unionised. An article entitled 'Trade union membership' published in **Australian Labour Market Statistics, April 2004** (cat. no. 6105.0), provides further information on the decline in trade union membership.

## CONCEPTS AND DEFINITIONS

13.28 There are no international recommendations or guidelines relating to statistics on trade union membership. However, numbers of employees who are members of a trade union are collected by the ABS annually in a supplementary survey to the Labour Force Survey, the Employee Earnings, Benefits and Trade Union Membership Survey.

13.29 A trade union is defined as "an organisation consisting predominantly of employees, the principal activities of which include the negotiation of rates of pay and conditions of employment for its members".

## DATA SOURCES

13.30 Estimates of the number and proportion of employees who are trade union members are produced annually from the Employee Earnings, Benefits and Trade Union Membership Survey. Readers should refer to **Chapter 21.2** for more detail on the content and methodology of this survey.

## INDUSTRIAL DISPUTES

### INTERNATIONAL CONCEPTS AND GUIDELINES

13.31 International guidelines (ICLS 1993) define **labour disputes** as "a state of disagreement over a particular issue or group of issues over which there is conflict between workers and employers, or about which grievance is expressed by workers or employers, or about which workers or employers support other workers or employers in their demands or grievances". Labour disputes comprise strikes, lockouts and other types of action in which workers may be involved. Involvement may be direct or indirect: for example, workers may participate directly in a strike by stopping work, or indirectly if they are prevented from working because of the strike. Secondary effects of action due to labour disputes are excluded from measures of disputes.

13.32 **Strikes** are defined in international guidelines as "a temporary work stoppage effected by one or more groups of workers with a view to enforcing or resisting demands or expressing grievances, or supporting other workers in their demands or grievance". **Lockouts** are defined as "a total or partial temporary closure of one or more places of employment or the hindering of the normal work activities of employees, by one or more employers with a view to enforcing or resisting demands or expressing grievances, or supporting other employers in their demands or grievances". **Other types of action** are defined as "actions effected by one or more groups of workers or by one or more employers, with a view to enforcing or resisting demands or expressing grievances, or supporting other workers or employers in their demands or grievances, in which there is no cessation of work". Other types of action include work bans, go slows, work limitations etc. **Secondary effects** are "the effects on other establishments where workers are prevented from working or their work is disrupted, or the effects on other groups of self-employed workers who are prevented from working or whose work is disrupted". Examples of secondary effects include stand-downs because of lack of materials, disruption of transport services, and power shortages.

13.33 The international guidelines recommend a core set of statistical measures of disputes be collected, and that these be supplemented or extended by additional measures as appropriate. The core set of statistical measures should cover all strikes and lockouts, and all employees directly involved. Other types of industrial action and the self-employed are not core and should only be included where relevant. Measures of strikes and lockouts that should be collected include: numbers and duration of strikes and lockouts; and both numbers of workers involved and amounts of time lost by workers involved. Where possible, data relating to strikes and lockouts should be collected, compiled and presented separately.

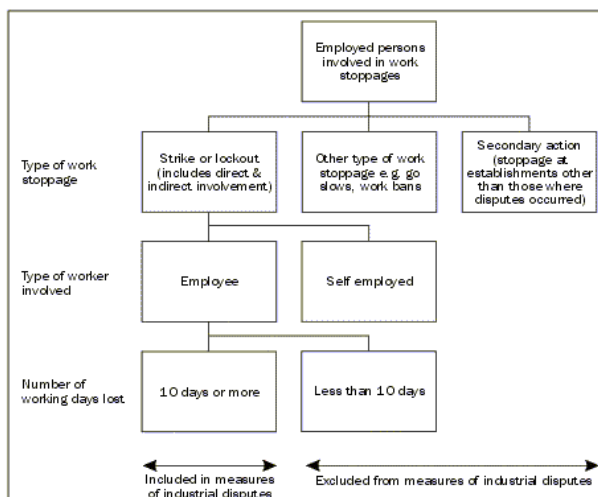
### DEFINITIONS USED IN ABS INDUSTRIAL DISPUTES COLLECTION

13.34 Statistics on industrial disputes are collected by the ABS on a monthly basis in the Industrial Disputes collection and released for a quarterly reference period. Statistics on disputes in this collection are, as much as possible, based on the concepts and definitions outlined in international guidelines. The term 'industrial dispute' is defined more narrowly than in the international guidelines and refers to only 'strikes' and 'lockouts'. An **industrial dispute** is defined as "a state of disagreement over an issue or group of issues between an employer and its employees, which results in employees ceasing work. Industrial disputes comprise strikes, which are a withdrawal from work by a group of employees; and lockouts, which are a refusal by an employer or group of employers to permit some or all of their employees to work".

13.35 The ICLS definitions of strikes and lockouts (paragraph 13.33) explicitly mention the temporary nature of the stoppage or closure, and disputes in support of other workers. However, while neither of these issues is explicitly included in the ABS definition, both are applied in the collection of statistics. Statistics on industrial disputes are restricted to stoppages of work of ten working days or more and exclude both 'other forms of action' and the 'self-employed'. The number of working days lost is defined as the total amount of ordinary time lost by employees on strike or locked out, regardless of the length of the stoppage. Statistics include direct and indirect involvement at the locations where the stoppages occurred, but exclude secondary effects of industrial action (e.g. stand-downs at other locations because of lack of materials).

13.36 Diagram 13.1 illustrates the criteria used to include or exclude industrial disputes from ABS statistics.

### 13.1 TYPES OF DISPUTES INCLUDED IN THE ABS INDUSTRIAL DISPUTES COLLECTION



13.37 Other data collected in the Industrial Disputes collection include:

- Cause of dispute - relates to the main cause of stoppages of work and not necessarily all causes that may have been responsible for work stoppages. Initially, the classification of 'Cause of dispute' identifies whether a dispute occurred during a process of workplace/enterprise bargaining. Disputes are then further classified according to the main cause of the dispute. Causes include: remuneration; employment conditions; health and safety; job security; managerial policy; and union issues.
- Working days lost per employee involved - for an individual dispute, defined as the average number of working days lost per employee involved in the dispute. It is calculated by dividing the number of working days lost in the dispute by the number of employees involved (both directly and indirectly).
- Employees directly involved in a dispute - those who actually participated in the dispute in order to enforce or resist a demand or to express a grievance.
- Employees indirectly involved in a dispute - those who were stood down at the location where the dispute occurred, but who were not themselves parties to the dispute. Employees who were stood down at locations other than those where the dispute occurred are excluded.
- Employees newly involved in a dispute - for a new dispute, comprises all employees involved and, for an ongoing dispute, those involved for the first time.
- Total employees involved - comprises employees newly involved and, for an ongoing dispute, those who continue to be involved. Total employees involved for any period of time is obtained by adding together the number of employees involved in each dispute for the period.
- Reason work resumed - relates to the reason(s) for ending the stoppage of work and not necessarily to the reason(s) for settling all matters in the dispute. Reasons include: negotiation without intervention of a third party; State legislation; Federal legislation; pre-determined return to work; resumption without negotiation; and mediation.
- Working days lost - refers to working days lost by employees directly and indirectly involved in the dispute. Estimates of working days lost per thousand employees are calculated for a quarterly period by dividing the total number of working days lost in the period by the total number of employees in the Australian workforce in the period (obtained from the ABS Labour Force Survey) and multiplying by 1,000.

#### DATA SOURCES

13.38 ABS statistics on industrial disputes are released each quarter in **Industrial Disputes, Australia** (cat. no. 6321.0.55.001). Readers should refer to **Chapter 26** for more detail on the content and methodology of this collection.

#### FURTHER INFORMATION

13.39 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

#### FOOTNOTES

1. Data on methods used to set pay are only available from Surveys of Employee Earnings and Hours conducted biennially from May 2000 onwards.< [Back](#)

[Previous Page](#)

[Next Page](#)

## Chapter 14. Labour Productivity

#### INTRODUCTION

14.1 The broadest definition of 'productivity', from the ILO, is "the ratio between output and the total input of factors required to achieve it". In

this sense, productivity is "the end result of a complex social process including: science, research and development, education, technology, management, production facilities, workers' and labour organisations".

14.2 Most analyses seeking to measure productivity have confined themselves to a partial, or single factor, measure, as opposed to total factor (or multifactor) productivity. Single factor measures of productivity are expressed as a ratio between a given measure of output and a given measure of one factor of production (labour, capital, raw materials, etc.). It follows that there are many measures of productivity, each of which relates to a particular factor of production. Thus it is possible to speak of the productivity of labour, of capital, of raw materials, of power, etc. Such measures reflect the growth in output not accounted for by the growth in that particular factor of production. Thus, the ratio of output to hours worked - often referred to as a measure of labour productivity - reflects the growth in output attributable to all factors of production **other** than hours worked. Often the measure used varies in accordance with the level at which productivity is analysed, e.g. plant, industry, branch of the economy or the economy as a whole.

14.3 The first investigations into productivity were concerned with labour productivity and many more studies have been devoted to it since. It is perhaps because human labour is a universal key resource that labour productivity has remained the centre of interest. It also helps to explain how the term 'productivity' has often been - and often still is - used to mean 'labour productivity'.

## **CONCEPTS AND INTERNATIONAL GUIDELINES**

14.4 While the ILO has published two studies (in 1951 and 1969) on the measurement of labour productivity, no international standards have been promulgated by that organisation. The view taken in the 1969 study was that, while it was useful to have a set of definitions which correspond to the various measures of productivity, it was premature to set standards for a single productivity ratio for each measure. At the same time it was recognised that time worked, labour force, and physical and value-based measures were all appropriate concepts for particular purposes.

14.5 Considerations such as those led an ILO Working Group on Productivity Statistics to make recommendations, especially on the economic coverage of productivity series, the choice of units of measurement for output, and the corresponding labour input. While no recommendation was made as to which concept was most suitable for measuring national output, several participants in the Working Group preferred estimates at constant prices of gross domestic product at factor cost. In respect of the measurement of labour inputs, the concern was to ensure that account was taken of all the activities of all persons engaged in production.

14.6 The Working Group considered that the improvement of labour productivity statistics depended on better national statistics on output, and on the existence of corresponding data for employment or hours of work. Similarly, it was considered that the ability to compare the trend and level of productivity between one country and another improved with the use of comparable concepts for the definition of output, input and prices, and the wider use of international standards in existence in these fields. The standards being referred to, in particular, were those of the International Conference of Labour Statisticians in respect of input, the United Nations System of National Accounts in respect of output, and the International Standard Industrial Classification in respect of scope and classification.

## **ABS DEFINITIONS, METHODOLOGY AND SOURCES**

14.7 The ABS recognises that the level of gross domestic product and changes in real gross domestic product are a function of many different factors including capital, labour, technical knowledge, scale of production and managerial efficiency. Changes in any one of these factors can result in productivity changes. While it is impossible to objectively measure the role of these factors separately, it is recognised that one of the most important and widely accepted analytical series, which is used as a proxy for labour productivity, is real gross domestic product per hour worked.

14.8 Estimates on this basis for the market sector as a whole and for each industry in the market sector are compiled by the ABS and published in Australian System Of National Accounts (cat. no. 5204.0). Quarterly indexes of gross domestic product per hour worked are published for the market sector and for the whole economy in Australian National Accounts: National Income, Expenditure and Product (Cat. No. 5206.0). The ABS also publishes annual indexes of multifactor productivity for the market sector in cat. no. 5204.0.

## **LABOUR INPUT**

14.9 The choice of a particular series to represent labour input depends upon the use to which the measures are to be put and the nature of the available data. For many purposes it would be desirable for changes in the quality of labour employed (such as the proportion of skilled to unskilled employees) to be reflected in measures of labour input. However, because of data limitations, the measure of labour input used in compiling the estimates presented in Australian System Of National Accounts (cat. no. 5204.0) and (Cat. No. 5206.0) is hours worked by total persons employed.

14.10 The estimates of hours worked are derived as the product of employment and average hours worked. The employment data comprise all labour engaged in the production of goods and services and include not only civilian wage and salary earners but also employers, self-employed persons, persons working one hour or more without pay in a family business or on a farm, and members of the Australian defence forces. The annual employment and average hours worked figures are simple averages based on the available observations during the year. The actual estimates of employment are drawn from a variety of ABS sources (the major one being the Labour Force Survey) and from the Department of Defence. The estimates of average hours worked are taken from the Labour Force Survey. For further details refer to Chapter 27 of Australian National Accounts: Concepts, Sources and Methods.(cat. no. 5216.0).

## **CHAIN VOLUME ESTIMATES OF GROSS DOMESTIC PRODUCT**

14.11 The estimates of real gross domestic product used in the derivation of the ABS labour productivity statistics are annually reweighted chain Laspeyres volume measures. The concepts and definitions used in deriving chain volume estimates are explained in Chapter 10 of Australian National Accounts: Concepts, Sources and Methods (cat. no. 5216.0).

## **GROSS DOMESTIC PRODUCT PER HOUR WORKED**

14.12 In Australian National Accounts: National Income, Expenditure and Product (Cat. No. 5206.0) and Australian System Of National Accounts (cat. no. 5204.0) the term 'gross domestic product per hour worked' (and similar terminology for the industry statistics) is generally used in preference to 'labour productivity' because:

- the term is more self-explanatory; and
- the measure does not attribute change in gross domestic product to specific factors of production.

## INDUSTRY CLASSIFICATION

14.13 The industry dissections of gross domestic product are referred to as industry gross value added. They and the associated industry estimates of hours worked are derived as consistently as possible in accordance with the **Australian and New Zealand Standard Industrial Classification, 1993** (cat. no. 1292.0).

## FURTHER INFORMATION

14.14 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

# Chapter 15. Occupational Injuries and Diseases

[Contents >> Concepts and Sources >> Chapter 15. Occupational Injuries and Diseases](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis. This chapter was updated on 15 December, 2005.**

## INTRODUCTION

15.1 From its inception, the ILO recognised the importance of establishing an adequate statistical basis for the measurement and analysis of risks inherent in employment, and has made recommendations on the concepts associated with those statistics in the first, sixth, tenth, thirteenth and sixteenth (1998) ICLS. Recommendations of the sixteenth ICLS are described in this chapter along with measures of occupational injuries and diseases available for Australia.

## CONCEPTS AND INTERNATIONAL GUIDELINES

15.2 ICLS 1998 defined an occupational injury as "any personal injury, disease or death resulting from an occupational accident". An occupational disease was defined as "a disease contracted as a result of an exposure over a period of time to risk factors arising from work activity". The following terms, used when measuring the nature and incidence of occupational injuries, were also defined:

- occupational accident - an unexpected and unplanned occurrence, including acts of violence, arising out of or in connection with work, which results in one or more workers incurring a personal injury or death;
- commuting accident - an accident resulting in death or injury which occurs on the habitual route, in either direction, between the place of work or work-related training and: (1) the worker's residence; (2) the place where the worker usually takes meals; or (3) the place where the worker usually receives remuneration; and
- incapacity for work - arising from an occupational injury, the inability of a worker to perform the normal duties or tasks of the job occupied at the time of the accident.

15.3 ICLS 1998 made recommendations in relation to the coverage of statistics on occupational injuries and the types of information countries should aim to collect. Where practical, countries should aim to cover all occupational injuries as defined above, including non-fatal injuries causing an absence of work of at least one day, excluding the day of the accident, and fatal injuries. The statistics should cover all workers regardless of their status in employment (for example, employees, employers and own-account workers) as well as child workers, informal sector workers and homeworkers.

15.4 The measurement unit recommended to be used for statistics on the nature and incidence of occupational injuries should be the 'case of occupational injury'. If a person is injured in more than one occupational accident during the reference period, each case of injury to that person should be separately counted. The types of information ICLS 1998 recommended that countries aim to collect include information about: the enterprise, establishment or local unit; the person injured; the injury; and the accident and its circumstances.

## DEFINITIONS USED IN AUSTRALIAN COLLECTIONS

15.5 In Australia, data on occupational injuries and diseases are principally compiled from administrative records of Commonwealth, State and Territory compensation authorities by the National Occupational Health and Safety Commission (NOHSC). The description of NOHSC below is followed by discussion of the data it collects. Also discussed below are ABS measures of occupational injury and disease.

## NOHSC NATIONAL DATA SET FOR COMPENSATION-BASED STATISTICS

15.6 The NOHSC was established by the Commonwealth Government to lead and coordinate national efforts to prevent or reduce the incidence and severity of occupational injury and disease. Among its priorities has been the provision of comprehensive and accurate national data on occupational health and safety.

15.7 In April 1987 the first version of the National Data Set (NDS) for Compensation-based Statistics was endorsed by NOHSC. Its primary purpose is to enable the production of national and nationally comparable workers' compensation-based data. Compensation-based data for the NDS have been supplied to NOHSC by State, Territory and Commonwealth workers' compensation agencies each year from 1991-92 onwards.

15.8 A review of the NDS, which addressed the scope, definitional and classificatory issues that had arisen since its implementation, was completed in May 1999. The second edition of the NDS was implemented in State, Territory and Commonwealth workers' compensation systems from 1 July 2000.

15.9 Definitions of occupational injuries and occupational diseases used in the NDS are consistent with international standards.

- Occupational injuries are defined as all employment-related injuries which are the result of a single traumatic event occurring while a person is on duty or during a recess period and where there was a short or non-existent latency period. This includes injuries which are the result of a single exposure to an agent(s) causing an acute toxic effect.
- Occupational diseases are defined as all employment-related diseases which result from repeated or long-term exposure to an agent(s) or event(s) or which are the result of a single traumatic event where there was a long latency period (for example, the development of hepatitis following a single exposure to the infection).

15.10 The NDS coverage of workers' compensation claims is consistent with international standards except for:

- occupational injuries of the self-employed (note: the definition of self-employed workers varies across jurisdictions and is not necessarily consistent with ABS definitions);
- occurrences covered under separate legislation for specific groups of workers;
- occurrences where the workers' compensation claims are pending, in dispute, withdrawn or rejected; and
- occurrences not claimed as workers' compensation.

15.11 The type and level of detail of the information to be collected for each claim is consistent with international standards and include:

- employer description - both in terms of industry and size;
- employee characteristics - date of birth and sex;
- job characteristics - occupation, duty status (e.g. at work, commuting, away from work), and number of hours usually worked each week;
- occurrence details - date of occurrence/report, nature of injury/disease, bodily location of injury/disease, mechanism of injury/disease, agency of injury/disease, breakdown agency; and
- outcome of incident - time lost, severity indicator, payments made.

## ABS SURVEYS

15.12 Measures of the incidence of occupational injury and disease are also available from the following ABS household surveys: the supplementary survey to the Labour Force Survey, the Work-Related Injuries Survey (to be included as a topic on the Multi-Purpose Household Survey); and the Special Social Surveys, the Survey of Employment Arrangements and Superannuation (2000 only), and the National Health Survey.

15.13 While the terminology used in these surveys ('work-related injuries') differs from that used in the international standards, the underlying definitions are broadly consistent with those recommended by the ICLS. However, the ABS has not sought to distinguish between 'work-related illnesses', 'work-related injuries' or 'work-related injuries sustained on journeys to or from work'. Instead the ABS broadly defines work-related injuries as illnesses or injuries sustained as a result of work activities, or on a journey to or from work, or aggravation of pre-existing conditions where employment was a contributory factor.

15.14 The coverage of ABS surveys of work-related injuries is broader than for the NOHSC dataset outlined above and includes:

- injuries sustained by all categories of employed workers;
- injuries that have been claimed under workers' compensation; and
- injuries that have not been claimed under workers' compensation.

15.15 The coverage of work-related injuries by these surveys is consistent with international standards except for:

- work-related illnesses or injuries resulting in death;
- general scope exclusions relating to ABS household surveys as outlined in **Chapter 18**; and
- specific scope exclusions of each survey:
  - the Work-Related Injuries Survey collects information about injuries sustained by persons who worked at some time during the previous 12 months;
  - the Survey of Employment Arrangements and Superannuation collects information from persons who are currently employed about injuries sustained over the previous 12 months; and
  - the National Health Survey collects information about recent illnesses and long term conditions (and whether they are work-related) of all persons.

15.16 The type of information collected about work-related injuries by the ABS surveys is generally consistent with international standards and is similar to the type of data available from the NOHSC dataset. The level of detail available from the ABS surveys, particularly in relation to injury occurrences and outcomes, is generally much lower than that available from the NOHSC dataset.

15.17 As recommended in the international standards, all three surveys collect detailed information on employee, job and employer characteristics. In addition, the National Health Survey collects details of occurrences (including place of accident/incident, method received accident/incident, and type of illness/injury), and both the Survey of Employment Arrangements and Superannuation and the Work-Related Injuries Survey collect some information on outcomes of work-related injuries. Information collected on outcomes of work-related injuries includes:

- Survey of Employment Arrangements and Superannuation - days or shifts absent related to (most recent) work related injury or illness; and
- Work-Related Injuries Survey - days or shifts absent related to (most recent) work-related injury or illness; sources of financial assistance; and whether applied for workers' compensation and, if not, reasons for not doing so.

## DATA SOURCES

15.18 As discussed above, statistics on occupational injuries and disease are primarily available from:

- the National Data Set for Compensation-based Statistics - for more information on the objectives and uses of the national data set, concepts and methods for collecting data, and contents of the dataset, see: **National Occupational Health and Safety Commission, National Data Set for Compensation-based Statistics, Second Edition, May 1999**. This publication is available on the NOHSC website ([www.nohsc.gov.au](http://www.nohsc.gov.au));
- the Work-Related Injuries Survey - for more information on survey content and methodology see **Chapter 21.15**;
- the Survey of Employment Arrangements and Superannuation - for more information on survey content and methodology see **Chapter 23**; and
- National Health Survey - for more information on survey content and methodology see **1995 National Health Survey Users Guide** (cat. no. 4363.0).

## FURTHER INFORMATION

15.19 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

[Previous Page](#)

[Next Page](#)

## Chapter 16. Other Classifications Used in Labour Statistics

[Contents >> Concepts and Sources >> Chapter 16. Other Classifications Used in Labour Statistics](#)

**Labour Statistics: Concepts, Sources and Methods was originally released in 2001 in both electronic and paper versions (cat. no. 6102.0). The paper publication will not be rereleased. However, the web version (cat. no. 6102.0.55.001) is being updated on an ongoing basis.**

### INTRODUCTION

16.1 Statistics need to be arranged in a coherent structure for compilation and analysis, and to facilitate comparison and combining with other statistical series. This chapter outlines the standard economic, socio-demographic, and geographic classifications used to aggregate labour statistics.

### ECONOMIC CLASSIFICATIONS

16.2 The standard economic classifications used in the production of labour statistics are industry and sector. These are discussed below.

#### INDUSTRY

16.3 An industry classification arranges economic activity into ordered categories or groups for analysis. The role of an industry classification therefore is to provide a framework which enables the grouping of businesses which carry out similar economic activity. The Australian and New Zealand Standard Industrial Classification 1993 (ANZSIC) is the standard industry classification used in Australia for the collection, compilation and publication of statistics by industry. It closely aligns with the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 3, adopted by the United Nations Statistical Commission.

16.4 The ANZSIC has a structure comprising four levels: Divisions (the broadest level), Subdivisions, Groups and Classes (the finest level). At the divisional level, the main purpose is to provide a limited number of categories that will provide a broad overall picture of the economy and hence be suitable for publication in summary tables in official statistics. There are 17 divisions within the ANZSIC, each identified by an alphabetical character.

A	Agriculture, Forestry and Fishing
B	Mining
C	Manufacturing
D	Electricity, Gas and Water Supply
E	Construction
F	Wholesale Trade
G	Retail Trade
H	Accommodation, Cafes and Restaurants
I	Transport and Storage
J	Communication Services

K	Finance and Insurance
L	Property and Business Services
M	Government Administration and Defence
N	Education
O	Health and Community Services
P	Cultural and Recreational Services
Q	Personal and Other Services

16.5 The subdivision, group and class levels provide increasingly detailed dissections of the broad categories. For further information on ANZSIC, refer to **Australian and New Zealand Standard Industrial Classification 1993** (cat. no. 1292.0).

## SECTOR

16.6 There are a number of standard classifications which involve dividing the national economy into broad economic sectors. This enables information to be provided about groups of economic units, such as financial corporations or households, that have similar economic functions and institutional characteristics. These classifications are described within the Standard Economic Sector Classifications of Australia (SESCA), the most relevant classifications for labour statistics being the Public/Private classification and the Level of Government classification.

### Public/private sector

16.7 The public/private classification is used to identify whether an enterprise is a public or private unit. The public sector includes all government units, such as government departments, non-market non-profit institutions that are controlled and mainly financed by government, and corporations and quasi-corporations that are controlled by government. The private sector includes all other enterprises.

### Level of government

16.8 The level of government classification is based on the economic function or role of public sector units and enables identification of public sector units by the level of government in which they operate. The classification has the following structure:

- National (or Commonwealth) Government - all public sector units that have a national role or function; i.e. the political authority underlying their functions extends over the entire territory of Australia, or the functions involve policies that are primarily of concern at the national level. Currently included are all Commonwealth government controlled units;
- State/Territory Government - all public sector units that have a State/Territory role or function; i.e. the political authority underlying their functions is limited to a State or Territory, or the functions involve policies that are primarily of concern at a State or Territory level. Currently included are all State/Territory government controlled units; and
- Local government - all public sector units that have a local role or function; i.e. the political authority underlying their function is limited to a local government area or other region within a State or Territory, or the functions involve policies that are primarily of concern at the local level. Currently included are all local government authorities and the units they control.

Note that when a public sector unit cannot be defined unambiguously as under the control of a single government, that unit will be classified to the level of government which typically has that role or function.

16.9 For more information on the classifications within the SESA refer to **Standard Economic Sector Classifications of Australia** (cat. no. 1218.0).

## SOCIO-DEMOGRAPHIC CLASSIFICATIONS

16.10 A range of socio-demographic data is available from labour-related household collections. Standard classifications used in the presentation of labour aggregates include age, sex, birthplace, marital status, families and households, schooling and educational qualifications, language, occupation and Indigenous status. Statistical standards for social and demographic variables have been developed by the ABS. Those relating to marital status, families and households, post-school educational qualifications, language, and Indigenous status are discussed below. Occupation is discussed in **Chapter 4**.

### MARITAL STATUS

16.11 Marital status is a core variable in a wide range of social, labour and demographic statistics, and is almost universally collected in ABS household collections. Its main purpose is to establish the living arrangements of couples in the Australian population. These living arrangements may be based on a legal concept (i.e. registered marriage), or a social, marriage-like arrangement (i.e. de facto marriage). Two separate concepts of marital status are measured, Registered Marital Status and Social Marital Status. These are discussed briefly below. For more information on the marital status classifications refer to the ABS Statistical Concepts Library available online at [www.abs.gov.au](http://www.abs.gov.au).

#### Registered marital status

16.12 Registered marital status is a person's relationship status in terms of whether he or she has, or has had, a registered marriage with another person for whom he or she holds, or held, a valid marriage certificate. Persons may be distinguished as:

- Never married
- Widowed
- Divorced
- Separated
- Married

## Social marital status

16.13 Social marital status is a person's relationship status in terms of whether he or she forms a couple relationship with another person. A couple relationship is based on a consensual union, and is defined as two people usually residing in the same household who share a social, economic and emotional bond usually associated with marriage, and who consider their relationship to be a marriage or marriage-like union. This relationship is identified by the presence of a registered marriage or de facto marriage. Persons may be distinguished as:

- Married
- Registered marriage
- De facto marriage
- Not married

## FAMILIES AND HOUSEHOLDS

16.14 The concepts of families and households are fundamental in the collection and dissemination of both social and labour statistics. A household can be thought of, in its broadest sense, as a group of people who live and eat together as a single unit within a dwelling. Notions of what constitutes a family vary. However, it is operationally defined within ABS collections as two or more related (by blood, marriage, adoption, step or fostering) persons, one of whom is at least 15 years of age, who are usually resident in the same household. Households and families constitute the basic groups of social aggregation. While the concept of household is broader than the concept of family, in practice both refer often to the same set of people. Discussed briefly below are the classifications: Household Type; Relationship in Household; Family Type; and Relationship between Families. For further information on these classifications refer to **Standards for Statistics on the Family** (cat. no. 1286.0).

### Household Type

16.15 Statistics on household type provide information on the number and composition of households. Household Type is used to describe and categorise households on the basis of the number of families present, whether or not non-family members are present (family households only), and the number of household members (non-family households only). The standard Household Type classification is:

- Family household with only family members present
  - One family household
  - Two family household
  - Three or more family household
- Family household with non-family members present
  - One family household with non-family members present
  - Two family household with non-family members present
  - Three or more family household with non-family members present
- Non-family household
  - Lone person household
  - Group household
- Not classifiable
  - Not classifiable
  - Visitor only dwelling
  - Other not classifiable
- Not stated/inadequately described

### Relationship in Household

16.16 Statistics on relationships within households provide information on the familial relationships between persons residing within the same household. Operationally, Relationship in Household describes the familial and non-familial relationship of each person within each family in a given household. The familial relationship within each family is measured with reference to a family reference person chosen for that particular family.

16.17 The Relationship in Household classification has a two level hierarchical structure: major group and detailed minor group. The major groups are distinguished from each other in terms of the presence or absence of residency, family membership, and relationship to reference person within the household. The major groups are:

- |   |                          |
|---|--------------------------|
| 1 | Husband, wife or partner |
| 2 | Lone parent              |
| 3 | Child under 15           |
| 4 | Dependent student        |
| 5 | Non-dependent student    |
| 6 | Other related individual |
| 7 | Non-family member        |
| 8 | Visitor                  |

16.18 The minor group provides more detailed information about the relationship within the household. For example, a child under 15 years of age is further classified as being: a natural or adopted child; a step child; a foster child; an otherwise related child; or an unrelated child.

### Family Type

16.19 Statistics on family type are used to identify family structures, and are used extensively in measures of the social wellbeing of families. Operationally a family is defined as two or more persons, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering, and who are usually resident in the same household.

16.20 The Family Type classification has a four level hierarchical structure: super group (the broadest level); major group; minor group; and detailed group (the finest level). The super groups are distinguished from each other on the presence or absence of a couple relationship, parent-child relationship, or other blood relationship. The four super groups are:

- 1 Couple family with children
- 2 Couple family without children
- 3 One parent family
- 4 Other family

16.21 The major group, minor group and detailed group provide increasingly detailed dissections of the broad categories. In addition to the four distinct levels, information about the 'type of couple' is provided to distinguish the sex of partners in couple relationships.

### Relationship between families

16.22 Statistics on relationships between families are used to identify extended families living within households, and to facilitate the analysis of family networks and the complexities of family life. Data about the types of extended families within households are mainly gathered through questions on relationship in household. Relationships within families are assigned through the initial identification of a family reference person around whom the family may be constructed. Familial or non-familial relationships are established by examining the relationships between the reference persons of each family. The relationships between families that are distinguished are:

- Mother's/father's family
- Grandparent's family
- Son's/daughter's family
- Grandchild's family
- Brother's/sister's family
- Other related family
- Unrelated family

## EDUCATION

16.23 A standard classification of educational activity, the Australian Standard Classification of Education (ASCED), was released in 2001.

16.24 The ASCED has been developed to classify educational activity by the level and field of the activity. It also provides the flexibility to report statistics on different aspects of education such as enrolments, resources (human and financial) used, or the educational attainment of the population. ASCED has been designed to be applied to a number of education-related concepts, such as a 'qualification', a 'unit of study', a 'module' or a 'course'. The classification includes all pre-primary, primary and secondary education as well as all formal post-secondary education and training. ASCED classifies education according to two elements: level of education; and field of education. These elements are described below and can be used separately or in combination. For further information, refer to **Information Paper: Australian Standard Classification of Education (ASCED)** (cat. no. 1271.0).

### Level of education

16.25 Level of education is a function of the quality and quantity of learning associated with an educational activity and can, in theory, be assessed in terms of the following criteria: the theoretical and vocational orientation of the educational activity; the minimum entry requirements for the educational activity (i.e. the minimum amount of prior education needed to undertake the educational activity at that level); and the course length (or notional duration of the educational activity).

16.26 The level of education classification has nine broad levels:

- 1 Postgraduate Degree Level
- 2 Graduate Diploma and Graduate Certificate Level
- 3 Bachelor Degree Level
- 4 Advanced Diploma and Diploma Level
- 5 Certificate Level
- 6 Secondary Education
- 7 Primary Education
- 8 Pre-Primary Education
- 9 Other Education

### Field of education

16.27 Field of education refers to the subject matter included in an educational activity. Fields of education are related to each other through the number of subjects they have in common, through the broad purposes for which the study is undertaken, and through the theoretical knowledge which underpins the subject matter. Fields of education are classified into progressively broader groups according to the following criteria: the theoretical content of the course; the purpose of learning; the objects of interest; the methods and techniques; and the tools and equipment.

16.28 The Field of Study Classification consists of three hierarchical levels; Broad Field; Narrow Field; and Detailed Field. The detailed fields aggregate into narrow fields and the narrow fields in turn aggregate into broad fields. The Broad Field categories are:

1	Natural and Physical Sciences
2	Information Technology
3	Engineering and Related Technologies
4	Architecture and Building
5	Agriculture, Environmental and Related Studies
6	Health
7	Education
8	Management and Commerce
9	Society and Culture
10	Creative Arts
11	Food, Hospitality and Personal Services
12	Mixed Field Programmes

## LANGUAGE VARIABLES

16.29 The development of Australia as a multicultural society and the subsequent wider interest in constructing statistical profiles of particular ethnic or cultural population groups has, over the years, increased the use of and need for quality language data. To meet these growing needs, the ABS has incorporated language questions in a range of social statistics collections. Variables collected include 'main language spoken at home', 'first language spoken', and 'proficiency in spoken English'.

16.30 The output classifications for both the 'main language spoken at home' and 'first language spoken' variables distinguish between English and other languages. Other languages are classified according to the **Australian Standard Classification of Languages** (cat. no. 1267.0), and readers should refer to this publication for more information on the issue of what constitutes a language as well as for further information on the classification itself.

16.31 Questions on 'proficiency in spoken English' are asked only of persons who speak languages other than English at home or whose first language spoken was other than English. Respondents are asked to classify themselves as speaking English: very well; well; not well; or not at all.

## INDIGENOUS STATUS

16.32 The term Indigenous is used to refer to Australian Aboriginal people and Torres Strait Islanders. Identification of Indigenous peoples is required to build statistical profiles of them across a wide range of areas of social and economic concern. The 'Commonwealth working definition' of an Aboriginal or Torres Strait Islander is "a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he or she lives" (**footnote 1**). In ABS statistical collections, it is not feasible to collect information on the community acceptance part of this definition, and therefore questions on Indigenous Status relate to descent and self-identification only. In practice, people are asked if they are of Aboriginal or Torres Strait Islander origin. Those who identify themselves as of Aboriginal and/or Torres Strait Islander origin are classified as Indigenous persons.

16.33 The classification (see below) for Indigenous Status has a hierarchical structure comprising two levels. There are four Indigenous Status categories at the detailed level of the classification which are grouped to two categories at the broader level. There is one supplementary category. The classification is often only available at the broader level. For further information, refer to **Standards for Statistics on Cultural and Language Diversity** (cat. no. 1289.0).

- Indigenous
  - Aboriginal but not Torres Strait Islander Origin
  - Torres Strait Islander Origin but not Aboriginal
  - Both Aboriginal and Torres Strait Islander Origin
- Non-Indigenous
  - Neither Aboriginal nor Torres Strait Islander Origin
- Not Stated

## GEOGRAPHIC CLASSIFICATIONS

16.34 There are two geographic classifications used by the ABS for the collection and dissemination of geographical statistics: the Australian Standard Geographical Classification (ASGC); and the Standard Australian Classification of Countries (SACC). The ASGC divides Australia into a number of geographical hierarchies to suit different statistical purposes. The SACC is a classification of countries based on the concept of geographic proximity. Both classifications are used in the collection and dissemination of ABS labour-related statistics. They are discussed further below.

### AUSTRALIAN STANDARD GEOGRAPHICAL CLASSIFICATION (ASGC)

16.35 The ASGC is a hierarchical classification system consisting of six interrelated classification structures. The ASGC provides a common framework of statistical geography and thereby enables the production of statistics which are comparable and can be spatially integrated.

16.36 In practice, statistical units such as households and businesses are first classified or assigned to a geographical area in one of the six ASGC structures. Data collected from these statistical units are then compiled into ASGC-defined geographic aggregations which, subject to confidentiality restrictions, are then available for publication.

16.37 The six interrelated classification structures of the ASGC are:

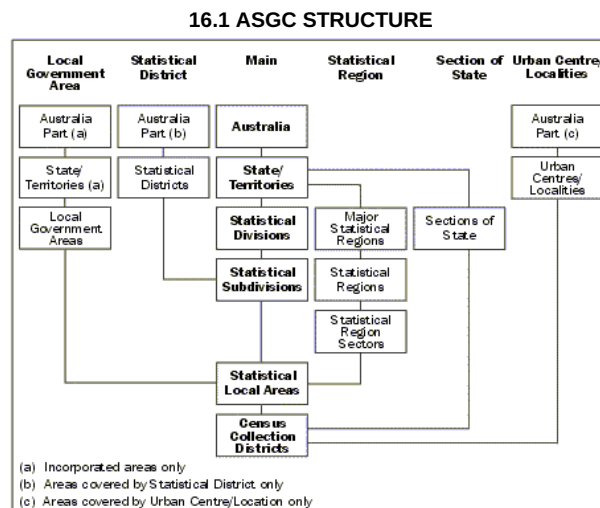
- Main Structure;
- Local Government Area Structure;

- Statistical District Structure;
- Statistical Region Structure;
- Urban Centre/Locality Structure; and
- Section of State Structure.

16.38 Each of these structures serves a specific purpose. In Census of Population and Housing years (e.g. 1986, 1991, 1996), all six structures of the ASGC are used. In intercensal years, only the first four structures are used.

16.39 The Main Structure, the Statistical Region Structure and the Section of State Structure cover the whole of Australia without gaps or overlaps. The other structures cover only part of Australia. These structures are hierarchical, with different structures having different numbers of levels (see diagram 16.1). Each hierarchical level is made up of one type of **geographical spatial unit** (geographical area). The spatial units at each higher level are aggregations of the spatial units at the previous lower level.

16.40 The diagram below depicts the various ASGC structures and shows how they interrelate.



16.41 The spatial units (geographic areas) in the structures of the ASGC are described in below.

- States and Territories (S/Ts) - these are the largest spatial units in the ASGC. Six States and five Territories are included: New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, Northern Territory, Australian Capital Territory, Jervis Bay Territory and the external territories of Christmas Island and Cocos (Keeling) Islands. Except for the last three mentioned territories, the total area of each S/T, including their off-shore islands, is used for statistical purposes as a separate spatial unit in the ASGC. Jervis Bay Territory, and the territories of Christmas Island and Cocos (Keeling) Islands are included as one spatial unit at the S/T level under the category of Other Territories.
- Statistical Divisions (SDs) - SDs are large, general purpose regional type spatial units used widely in the compilation of ABS statistics. They consist of one or more SSDs and cover the whole of Australia without gaps or overlaps. SDs aggregate to form S/Ts. They do not cross State or Territory boundaries, except in the case of the Other Territories SD which comprises the Jervis Bay Territory and the territories of Christmas Island and Cocos (Keeling) Islands.
- Statistical Subdivisions (SSDs) - SSDs are general purpose spatial units of intermediate size between the SLA (smaller) and the SD (larger) in the ASGC Main Structure. SSDs are aggregates of Statistical Local Areas (SLAs) and cover the whole of Australia without gaps or overlaps. They do not cross SD or S/T boundaries except in the case of the Other Territories SSD, which comprises the three territories of Jervis Bay, Christmas Island and Cocos (Keeling) Islands. SSDs also aggregate to Statistical Districts in the Statistical District Structure.
- Statistical Local Areas (SLAs) - SLAs are the base spatial units used to collect and disseminate statistics other than those collected from the Censuses of Population and Housing. In non-census years, the SLA is the smallest unit defined in the ASGC. In census years, an SLA consists of one or more whole Census Collection Districts (CDs). In aggregate, SLAs cover the whole of Australia without gaps or overlaps. SLAs are based on the boundaries of incorporated bodies of local government where these exist. These bodies are the Local Government Councils and the geographical areas which they administer are known as Local Government Areas (LGAs). SLAs can be whole or part LGAs. In the remainder of Australia where there is no incorporated body of local government, SLAs are defined to cover the unincorporated areas. At 1 July 1998 there were 1,332 SLAs in Australia (**Australian Standard Geographical Classification (ASGC) 1998 Edition** (cat. no. 1216.0)).
- Census Collection Districts (CDs) - The smallest spatial unit in the ASGC in census years, the CD is designed for the collection and dissemination of Census of Population and Housing data. In non-census years, CDs are undefined. Generally, a CD defines an area that one census collector can cover for distribution and collection of forms in about a ten day period. CDs aggregate directly to form the larger spatial units of SLAs, Sections of State (SOS) and Urban Centres/Localities (UC/Ls). In aggregate, CDs cover the whole of Australia without gaps or overlaps. For the 1996 Census, 34,500 CDs were defined throughout Australia.
- Local Government Areas (LGAs) - LGAs consist of one or more SLAs and cover only incorporated areas of Australia. Incorporated areas are legally designated areas such as cities, towns and shires, over which incorporated local governments have responsibility.
- Major Statistical Regions (MSRs) - These units cover the whole of Australia without gaps or overlaps. Each MSR consists of one or more Statistical Regions. MSRs do not cross State/Territory boundaries (except in the case of Other Territories) and serve the same purpose as Statistical Regions, but at a broader level. The larger States are dissected into two MSRs, but because of population size, Tasmania, Northern Territory, Australian Capital Territory and Other Territories each have only one MSR defined.

- Statistical Regions (SRs) - SRs are designed primarily as sufficiently large regional type spatial units suitable for both Population Census and Labour Force statistics. Each SR consists of one or more Statistical Region Sectors.
- Statistical Region Sectors (SRSs) - These units consist of one or more SLAs. They are used primarily for disseminating selected Population Census and Labour Force Survey statistics. SRSs are designed to be subdivisions of SRs, but in practice most SRSs equate with SRs.
- Statistical Districts (S Dists) - S Dists are significant predominantly urban areas in Australia which are not located within a Capital City SD. The boundaries are designed to contain the anticipated urban spread of the area for at least 20 years. They are generally defined around one or more urban centres with a population of 25,000 or more. S Dists consist of one or more SSDs and can straddle State and Territory boundaries (e.g. Gold Coast - Tweed S Dist lies partly in Queensland and partly in New South Wales).
- Urban Centres and Localities (UC/Ls) - UC/Ls are defined for each Census of Population and Housing (undefined in non-census years) and consist of one or more whole adjoining CDs which meet certain population size and other criteria. Localities represent population clusters between 200 and 999 people while Urban Centres represent population clusters of 1,000 or more people. Because of their nature UC/Ls can straddle SLA, LGA, SSD and other ASGC spatial unit boundaries. For statistical purposes, people living in Urban Centres are classified as urban while those in Localities are classified as rural.
- Sections of State (SOS) - These spatial units are defined for each Census of Population and Housing (undefined in non-census years). Like the UC/L structure, the SOS structure of the ASGC uses population counts from the Census of Population and Housing to distinguish CDs between urban and rural. Unlike the UC/L structure, the SOS structure covers all of Australia. Each SOS represents an aggregation of non-contiguous CDs of a particular urban/rural type. The current SOS structure comprises the following categories: Major Urban, Other Urban, Bounded Locality, Rural Balance, and Migratory.

16.42 For further information about the ASGC refer to the **Australian Standard Geographical Classification (ASGC)** (cat. no. 1216.0).

## STANDARD AUSTRALIAN CLASSIFICATION OF COUNTRIES (SACC)

16.43 The SACC groups neighbouring countries into progressively broader geographic areas on the basis of their similarity in terms of social, cultural, economic and political characteristics. The SACC is the revised edition of the Australian Standard Classification of Countries for Social Statistics (ASCCSS). In addition to making it suitable for economic statistics, a revised edition was required to deal with political change in Eastern Europe (particularly the breakup of the former USSR and former Yugoslavia) and to allow for a more stringent application of the classification criteria in both Europe and surrounding areas such as the Middle East and parts of Asia. The SACC also incorporates previous revisions to the ASCSS.

16.44 The base units in the classification are 'countries'. The 'countries' identified in the classification are of five types:

- fully independent countries (excluding their dependencies, external territories, etc.);
- administrative subdivisions of the United Kingdom (England, Scotland, Wales and Northern Ireland);
- external territories and dependencies of independent countries, for example, Falkland Islands, Martinique;
- units which are recognised geographic areas, the ownership or control of which is in dispute, e.g. West Bank/Gaza Strip; and
- residual categories ('not elsewhere classified' categories) consisting of geographic areas which are not separately identified in the classification and which are not part of one of the separately identified base level units.

16.45 The classification includes all countries currently existing in the world, as defined above.

16.46 The SACC has a hierarchy consisting of three levels:

- the third and most detailed level contains 245 discrete Countries;
- the second level contains 27 Minor Groups which are groups of geographically proximate Countries similar in terms of social, cultural, economic and political characteristics; and
- the first and most general level contains 9 Major Groups which are formed by aggregating geographically proximate Minor Groups and, therefore, comprise Countries which are broadly similar in terms of social, cultural, economic and political characteristics.

16.47 The nine Major Groups of the classification are:

- 1 Oceania and Antarctica
- 2 North-West Europe
- 3 Southern and Eastern Europe
- 4 North Africa and the Middle East
- 5 South-East Asia
- 6 North-East Asia
- 7 Southern and Central Asia
- 8 Americas
- 9 Sub-Saharan Africa

16.48 For further information about the SACC please refer to **Standard Australian Classification of Countries (SACC)** (cat. no. 1269.0).

## FURTHER INFORMATION

16.49 For further details contact the Labour Market Statistics Section, on Canberra (02) 6252 7206.

## FOOTNOTES

1. Department of Aboriginal Affairs 1981, Report on a review of the administration of the working definition of Aboriginal and Torres Strait Islanders. **<back**

[Previous Page](#)

[Next Page](#)

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